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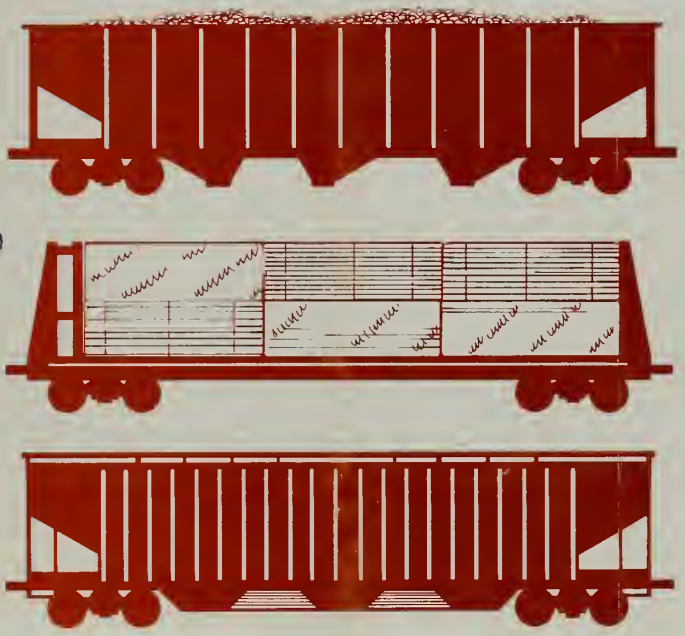
STATE OF MONTANA
RAIL PLAN



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M O N T A N A R A I L P L A N

August, 1979

Pursuant to Section 803 of the Railroad
Revitalization and Regulatory Reform Act of 1976

Prepared by:
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In Cooperation with
The Federal Railroad Administration
United States Department of Transportation

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PREFACE

The Montana Rail Plan was prepared by Roger CREIGHTON ASSOCIATES Incorporated in close cooperation and coordination with the Rail Planning Unit of the Montana Department of Highways. In this study, Robert Peccia and Associates conducted the rail users' survey and most of the community impact analysis. Railway Technical Services, Inc. inspected selected branchlines and prepared associated maintenance, salvage value, and rehabilitation cost estimates.

As so often happens with a study of this type, RCAI was heavily dependent upon local, state-level, and railroad company assistance in gathering data for this project. RCAI wishes to acknowledge this valuable assistance and to express its appreciation of the interest and support offered by many individuals in government and the rail industry.

EXECUTIVE SUMMARY

The Montana Rail Plan has been prepared pursuant to Section 803 of the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act). This Act requires states to prepare a plan for rail services to become eligible for Federal rail service assistance. The legislation assigns primary responsibility for systems or mainline planning to the Federal government and the railroads, individually and collectively. Consequently, most of the technical study done in preparing this plan document has focused on the merits of the ten light density lines presently or potentially the subject of an abandonment proceeding before the Interstate Commerce Commission (ICC). These lines are listed on the following page.

LIGHT DENSITY LINES FOR WHICH DETAILED ASSESSMENTS HAVE BEEN COMPLETED

	Line[1]	Between (Termini)	ICC Category[2]	Length (mi.)
1.	MILW MD - 14th Sub.	Agawam-Great Falls	1, 3	69.6
2.	MILW MD - 13th Sub.	Great Falls-Lewistown	1	134.5
3.	MILW MD - 10th Sub.	Lewistown-Harlowton	1	61.0
4.	MILW MD - 12th Sub.	Lewistown-Winifred	3	42.7
5.	MILW MD - 11th Sub.	Lewistown-Heath	1	9.2
6.	BN MD - 5th Sub.	Moccasin-Lewistown	1	30.7
7.	BN MD - 7th Sub.	Hogeland-Saco	1	79.3
8.	BN RMD - 9th Sub.	Red Lodge-Silesia	3	34.5
9.	MILW MD - 2nd Sub.	Ringling-Dorsey[3]	3	22.8
10.	BN MD - 1st Sub. Ind. Track	Glasgow-Glasgow AFB	1	18.8
11.	BN RMD - 13th Sub.[4]	Haugan-Mullan, ID	3	29.5
		Mullan, ID-Wallace, ID[5]	3	9.5

1/ MD - Montana Division (BN and MILW), RMD - Rocky Mountain Division (BN only)

2/ 1 - subject to abandonment within three years; 2 - under study for possible future abandonment; 3 - abandonment application pending

3/ 3.5 miles owned by the Milwaukee, the remainder by the White Sulphur Springs and Yellowstone Park Railroad. (WSPYPR leases portion owned by MILW, for which an abandonment application has been filed)

4/ Detailed assessment originally prepared by RCAI for the Idaho Transporta - tion Department

5/ Discontinue BN service only. Line to be transferred to the UP

The Montana Rail Plan was prepared following a carefully defined work program comprised of the following components:

- Designing and conducting a survey of rail-dependent firms located on the above lines to determine the characteristics of the firms and detailed information on rail shipments and receipts during 1978.
- Assessing the impacts that would occur upon rail-dependent firms and the surrounding communities were rail service discontinued. Impacts include economic, environmental, energy, social, and highway system effects. From this, the cost of discontinuing rail service was determined for each line.
- Conducting a financial analysis of the profitability of each line to the owning railroad. This involved comparing attributable revenues and avoidable costs to determine the net cost of continuing rail service for each line. In addition, rehabilitation needs and costs were also assessed.
- Investigating substitute service possibilities involving changes in rail service or the use of alternative modes.
- Preparing detailed assessments for each line studied.
- Preparing the state rail plan document in conformance with federal requirements.

As a consequence of this work, the Department has concluded that Montana should seek federal assistance to rehabilitate the (1) Agawam to Great Falls, (2) Great Falls to Lewistown, and (3) Lewistown to Harlowton lines. All three are Milwaukee lines. This result stems from the inherent profitability of the lines, rather than from the desire to retain the Milwaukee as a competitor to the Burlington Northern. While no economic basis exists for abandonment, the Milwaukee has already served notice of its intention to abandon those lines as part of its reorganization efforts. Thus abandonment is a very real possibility, institutionally.

Federal assistance is not being sought for the remaining seven lines for one or more of the following reasons:

- The cost of discontinuing rail service is low, indicating that the community impacts resulting from potential abandonment are small.
- The cost of discontinued service divided by the cost of continued service ratios are low. These ratios, analogous to a benefit-cost ratio, should be at least 1.5 (or higher) to justify public investment in keeping marginal or unprofitable rail services going.
- The line is uneconomic to the owning railroad (i.e., attributable revenues are less than the avoidable costs), thus necessitating continuing shipper or governmental subsidization of operations.
- While there is the possibility that abandonment of any one of these lines might be counter to Montana's long-term interest in view of changing energy availability and price, there is at present little demonstrated need for retaining rail service under these circumstances.
- While the line may have sufficient traffic potential from on-going or expected economic development to become profitable within a short period, the lack of funds and any immediate pressing needs obviates the possibility of including these lines in Montana's Section 803 program, at least for now.

MDH does not encourage the owning railroads to abandon these lines. However, it fully recognizes the economic reasons underlying the possible abandonment of these lines and will not oppose such action so long as it can be proven that the line is indeed unprofitable and provided that no significant local impact would occur with abandonment.

How does the above relate to the larger question concerning the future of the Milwaukee in Montana? Shouldn't this be the main focus of rail planning efforts, rather than concentrating on ten relatively unimportant light density lines? What efforts are being undertaken to save all or portions of the Milwaukee system in Montana? The

bankruptcy of the Milwaukee and especially the recent efforts of the Trustee to embargo rail service in the west has led to increased interest in seeking a solution for the Milwaukee other than a retrenchment to a midwest core system. The U. S. District Court overseeing the Milwaukee reorganization has directed the Trustee to submit a plan by August 6. While the specific details of this plan are presently unknown, it obviously will depend heavily on the financial studies conducted for the Trustee by Booz, Allen and Hamilton.

As an alternative to this plan, considerable interest has been expressed in employee and shipper ownership of a railroad which would be a true replacement and successor to present railroad management. A "New Milwaukee Organization" has been proposed to develop a specific organizational, financial, management and marketing plan for a "Milwaukee lines west" railroad. Montana supports the New Milwaukee Organization in its efforts to create an employee and shipper owned railroad replacing the bankrupt Milwaukee.

Simultaneously with the above, South Dakota has proposed a short and longer term program of rehabilitating the Milwaukee mainline between Jonathan, Minnesota and Miles City as a means of preserving essential coal movements to electric generating stations in that state and Minnesot Both Section 803 and 505 funds would be used for this purpose. While prepared to "go-it-alone" on this project, South Dakota has sought to broaden the sponsorship of what is essentially a regional project by including the other states benefiting from retention of this portion of the mainline (i.e., Minnesota, North Dakota, and Montana). At this

point, Montana has not elected to join in this project.

What happens if the above efforts fail and the Burlington Northern then becomes the dominant carrier in Montana? Is this necessarily bad? No, but it does have the effect of reducing the leverage that the state government and shippers have in rate and service matters. Is there any other possibility should the alternatives presented fall by the wayside?

One promising "substitute service" type concept, applicable particularly to the grain lines in central Montana, would be to construct a grain subterminal in the general Lewistown area allowing the use of unit grain trains. Grain shipments presently made by rail from grain public warehouses located along the Milwaukee (and other lines) would instead be trucked to the centralized facility where it would be loaded into 100-ton hoppers. Shipments would be made in 50-car units, thus introducing economies of scale which would be reflected in better utilization of the car fleet and more reliable service. Its practicality of the grain subterminal rests on (1) being able to pass along significant economic benefits (transport cost savings) to the farmers, grain elevator operators, and railroads, (2) a willingness on the part of grain warehouses to combine together their shipping requirements into unit train quantities bound for a single destination, while retaining their independence and competitiveness in all other areas, and (3) the availability of capital funds to construct a strategically located grain subterminal and make necessary improvements to the highway system to sustain the "collector" trucking required in support of the terminal.

This concept is the only long-term, technologically advanced solution possible today.

There is no question that the preparation of this state rail plan would have been far easier had the Milwaukee's future been settled, one way or another. While the merits of the individual Milwaukee lines can be readily assessed on the basis of whether the Milwaukee stays or goes, the selection of projects cannot. Allocation of Montana's Section 803 allotment vis-a-vis Milwaukee lines is a function of (1) who is the ultimate owner and/or operator, including financial capability, (2) how much of the present system is to be retained, (3) anticipated short-term needs for rehabilitation funding -- especially for "emergency" type projects or "spot" improvements to prevent or minimize service interruptions pending determination of appropriate long-term solutions, and (4) the results obtained from the proposed grain subterminal feasibility study. Given the present situation, one list of projects and their assigned priorities is impossible. Consequently, separate project lists have been developed for the different reorganization plans or extensions thereof. These project lists have the following general thrust:

- Emergency or spot repair projects on the Milwaukee's 10th, 11th, 13th, and 14th subdivisions using FY 1979 Section 803 funds.
- Long-term rehabilitation of the above Milwaukee lines using FY 1980 (and beyond) Section 803 funds primarily if the lines are retained by the Milwaukee or successor organization (e.g., the New Milwaukee Organization).
- Otherwise, investment in a grain subterminal in the Lewistown area using FY 1980 (and beyond) Section 803 funds, if the various alternatives to the Trustee's Reorganization Plan are unsuccessful and further study shows the subterminal concept to be feasible.

INTRODUCTION

The Montana Rail Plan has been prepared pursuant to Section 803 of the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act). This Act extended both the local rail service continuation program and the rail transportation planning process originally begun elsewhere to all states in the nation.[1/] It directed in Section 803(j) that, as a prerequisite for eligibility to receive rail service assistance, a state would have to establish "an adequate plan for rail services in such State as part of an overall planning process for all transportation services in such State, including a suitable process for updating, revising and amending such plan; and that such State plan is administered or coordinated by a designated State agency and provides for the equitable distribution of resources."

In general, the role of states and local governments in rail planning, as indicated in the 4R Act, is primarily in the field of local rail service. The legislation assigns the primary responsibility for rail systems planning to the Federal government and the railroads, individually and collectively. However, since actions taken at the federal level and by railroad corporations directly affect state economies, state government must be aware of these changes and knowledgeable of the rail system within such state.

The value of the rail transportation planning process to date lies primarily in the understanding gained concerning the physical, operational, and commodity flow characteristics of the rail system within Montana and its impact upon the state's economy. This plan

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1/ State rail planning for local rail service was first instituted by the Regional Rail Reorganization Act of 1973 (3R Act) for the 17 states in the northeast and midwest. This latter act provided for the reorganization of six major bankrupt railroads into the Consolidated Rail Corporation (Conrail).

represents the culmination of an initial examination of the state's rail system in general, plus documenting the results of a more detailed examination of the ten light density branchlines which may be abandoned during the next several years. Rail planning is not a one-shot operation done solely to meet a Federal requirement, but rather is an on-going activity and responsibility of the Montana Department of Highways (the agency designated by the Governor to develop the state rail plan). As conditions change, so will the plans and recommendation contained in the state rail plan document likewise change. Future updates of the state rail plan will identify and address significant rail-related issues where the state might be able to play a constructive role.

The Montana Rail Plan was prepared following a carefully defined work program to insure that (1) the technical requirements of Federal regulations pertaining to state rail planning would be met, (2) the most efficient use of Montana Department of Highways and consultant personnel would be obtained, (3) rail planning would move forward toward completion in a timely fashion, and (4) the resulting plan would address the immediate rail-related issues facing the state.1/ Prior to preparing the state rail plan, the Department prepared and submitted to the Federal Railroad Administration, a revised planning work statement, dated December 12, 1978 and an application for planning funds.

The Montana Rail Plan is comprised of seven chapters. Chapter One briefly describes the planning process utilized in the development of the state rail plan. A more detailed description of the procedures

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1/ Applicable federal regulations implementing Section 803 of the 4R Act are published in 49 CFR Part 266 - Assistance to States for Rail Services Assistance Under Section 5 of the Department of Transportation Act - Procedures and Requirements Regarding Applications and Disbursements, Federal Register, Vol. 43, No. 2., January 4, 1978.

used is contained in Technical Appendices B and C. Chapter Two illustrates, through figures and text, the general functioning of the rail system in the state. Chapter Three identifies the different classes of rail service, again using figures and descriptive material. Chapter Four introduces and explains the individual light density line assessments that have been completed by the Montana Department of Highways and which appear in Technical Appendix A. Chapter Five describes the procedure used to prioritize light density lines and the resulting rank-ordering of potential projects. Chapter Six describes railroad, governmental, and public participation in the rail planning process. Finally, Chapter Seven presents a brief description of the overall planning process for all transportation services in the state. These seven chapters, plus technical appendices, meet the state rail plan content requirements as outlined in 49 CFR Part 266.15.

I. THE PLANNING PROCESS

Federal regulations require that state rail plans shall:[1]

> "Describe the planning process utilized in the development of the State Rail Plan, specifying the particulars as to State rail policy and objectives, data sources, assumptions, analytical methodology, and other special problems or conditions which would be essential to the understanding of the setting in which the State Rail Plan was developed. In particular, the State shall note any modification of the planning process set forth in its planning work statement."

A. State Rail Policy and Objectives

Rail transportation planning stems from the policy statement:

> "It is hereby declared to be the railroad transportation policy of the State of Montana that the continued health and welfare of its citizens demand a viable railroad transportation system, adequate to meet our economic needs and necessities; to encourage, promote, and support safe, adequate, economical, and efficient rail service in the private sector; to foster the establishment and maintenance of just and reasonable charges for transportation services rendered; to cooperate with the railroads, other States, and the Federal Government; all to the end of developing and preserving a privately owned railroad system, as part of Montana's total transportation system, adequate to meet the needs of our citizens, their commerce, and their defense."

Montana faces a complex variety of rail transportation issues. Short-term issues generally reflect concern over the railroad system physical plant (e.g., condition of track, lack of rolling stock, potential abandonments, unreliable service and transit times). Long-term issues include concern over modal competitiveness, rate cycles, economic and environmental conflicts, regulatory impacts (versus those that would occur with deregulation), transportation market development for the movement of goods and people, and the rail system's ability to meet future transportation demands. Short-term issues are addressed in

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[1] 49 CFR Part 266.15(c)(1)

the initial State Rail Plan being developed in Phase II; longer-term issues will be addressed in subsequent phases.

The Montana Department of Highways has developed a number of policies and objectives to guide rail planning in the state. Policies are broad statements reflecting Montana's posture in rail planning. Objectives describe the actions necessary to implement stated policies.

Policies include the following:

1. Continue present reliance upon privately-owned railroads in providing essential intra and interstate rail services.

2. Recognize and accept the principle that individual lines must earn sufficient revenues to cover operating expenses and provide the owning railroad with a reasonable return on the investment.

3. Coordinate rail planning and implementation activities with state and local land use policies and social, economic, environmental, and energy use objectives.

4. Encourage railroad efforts to improve service to Montana shippers.

5. Preserve rail access to natural and economic resources having expansion or development potential.

6. Utilize abandoned rail rights-of-way for public uses wherever feasible and practical.

Objectives include the following:

1. Develop the state rail plan as a component of an overall intermodal transportation plan. Evaluate the rail system as a portion of the state's total transportation system.

2. Institute a cooperative, comprehensive and continuing rail planning program which includes participation from state and local governments, the rail industry, and provides for public input.

3. Encourage modal (or intermodal) usage which provides the lowest total transport cost.

4. Identify and evaluate user needs and revenue generation required for the economic operation of specific light density lines.

5. Quantify the economic impacts of proposed rail system adjustments (abandonments).

6. Assess and mitigate, if possible, any environmental and social impacts of rail system adjustments.

7. Take steps necessary to maintain in or return to the private sector these rail lines found to be economically viable.

8. Evaluate alternatives to rail system adjustments, and arrange transportation solutions for shippers on lines not found to be viable.

9. Coordinate funding from governmental and private sources for rail service continuation, rehabilitation, acquisition, substitute service, or new construction projects selected as a consequence of state rail planning.

10. Encourage the continued use of rail passenger service, where provided. Promote expanded passenger service only where the potential traffic is large enough to substantially sustain the service provided.

11. Review state statutes and local regulations to eliminate undue impediments to efficient railroad operations.

12. Promote or sponsor changes and additions (as necessary) to existing federal and state legislation to develop a sound, efficient program of state rail planning and local service assistance.

In summary, Montana's rail planning program is based on a commitment to its citizens to provide and maintain an adequate, safe, efficient and economical transportation system for the movement of persons and goods within the state.

B. Analytical Methodology

To develop the state rail plan, the work involved was divided into nine major tasks which are identified below:

2.1 Rail User Survey
2.2 Community Impact Analysis
2.3 Financial Analysis
2.4 Analysis of Alternatives
2.5 Individual Light Density Line Assessments

2.6 Prioritizating of Light Density Lines
2.7 Rail System Analysis and Classification of Lines
2.8 Preparation of Initial State Rail Plan
2.9 Public Participation

Each of the tasks which make up the rail planning process is fully described in the Proposal for the Montana Rail Study.[1/]

A more detailed description of the analytical methodology used in analyzing light density lines appears in Technical Appendix B, which is bound separately from this volume. The basic principles utilized in light density line planning are summarized in the following paragraphs:

> Railroads naturally seek to abandon lines which they consider to be unprofitable. What this means is that prior to abandonment, shippers and communities located along the line in question are being subsidized in part by shippers located elsewhere on the rail system. For them, this is an ideal situation, since no social cost is incurred so long as the line remains in operation and no explicit government or shipper subsidies are required to sustain rail service. Depending upon the financial health of the owning railroad and the line's long-term traffic potential, this situation sometimes can go on for years. However, sooner or later the day of reckoning will come when the railroad will seek financial relief through abandonment, thus ending cross-subsidization. If the social costs of abandoning the line are large, the state, local communities, or affected shippers may seek to keep the line in operation through subsidizing operations or capital investment in rehabilitating the track structure. This then requires an explicit expenditure heretofore not required. Should the decision be to allow abandonment to take place, various social costs will occur as affected communities adjust to the loss of rail service. To the affected communities, these costs were held in abeyance so long as the line remained in operation.
>
> Thus, ICC issuance of a certificate of public convenience and necessity triggers two costs which affected communities were not previously forced to consider: (1) subsidization or capital investment for continuing rail service, and (2) social costs triggered by discontinuing rail service. The latter will

---

1/ See "Proposal for the Montana Rail Study" prepared for the Montana Department of Highways by Roger Creighton Associates, Inc., April 1979

occur only if rail service ceases.[1] So long as rail service is continued (subsidized or not), these costs do not actually occur. However, once rail service is terminated, these costs are incurred as personal income is lost, transport costs increase, tax receipts decrease, and transfer payments are made. The cost of discontinuing rail service reaches its peak shortly after service termination (usually at the point of maximum unemployment) and declines thereafter. If residual unemployment and increased transport costs occur, these costs may never disappear altogether. The general shape of the social cost curve is shown in Figure 1a.

The cost of continuing rail service, which occurs only if a deliberate decision is made to retain rail service, is comprised of some combination of capital and annual costs. Capital costs include expenditures for track rehabilitation or line acquisition. While such expenditures can be made on a cyclical basis, they are typically "one-time" events reflecting the infusion of government or shipper funds for the purpose of eliminating deferred maintenance and reducing annual costs. Annual costs include expenditures for maintenance of way and structures, maintenance of equipment, traffic and transportation, taxes, leasing the line (if the owning railroad is different from the operating railroad), management fees, insurance, profit, and off-branch operating costs (for other than short-line railroads). Annual gross costs are reduced by the revenues received, thus producing a net annual cost (avoidable costs less attributable revenues). The time patterns of capital and operating expenditures are indicated in Figures 1b, c, and d. Capital expenditures occur occasionally and in easily-defined, often large amounts. Operating expenditures occur continuously as a function of output per unit time. Net annual costs may rise or decline depending on the interactions of annual operating costs and revenues.

Government (or government-shipper-railroads) light density line decisions should flow from an objective comparison of the cost of continuing service versus the cost of discontinuing service. From an economic point of view, the preferred solution is the one having the least total cost. This principle holds for both initial assessments and reassessments. However, subsidies or capital investments occurring prior to reassessment represent sunk monies and cannot be included in the cost comparisons except for salvage values resulting from capital improvements.[2]

1/ Many light density line studies have used the term "benefits" to describe the economic impacts avoided by continuing rail service. Benefits are more properly defined as savings over an existing condition. Since no social costs are occurring prior to abandonment, no new benefits can be generated (from a governmental viewpoint) by either continuing or discontinuing rail service. Any decision will, therefore, cause costs to be incurred. The decision then becomes one of choosing the alternative which produces the least cost. Hence, the term "benefits" has not been used.

2/ Salvage values from track rehabilitation are quite small (10 to 15 percent of the initial investment). This stems from the labor intensive character of the work (largely tie renewals).

C. Data Sources

Both the Proposal for the Montana Rail Study and Technical Appendix B describe the data sources used in preparing the State Rail Plan. The shippers' survey provided much of the new data used in the plan. Other new data such as (1) traffic and revenue data by station, (2) current operating practices, and (3) shippers using a particular light density line were supplied to the Department by the railroads. The Department (through Railway Technology Services, Inc.) inspected and prepared rehabilitation cost estimates for five of the ten light density lines considered initially. Various other types of data were obtained from State and local agencies as the need arose.

D. Other Special Problems or Conditions

No special problems or conditions were encountered in preparing the State Rail Plan other than some variability in the quality of data obtained from different sources.

Figure 1a

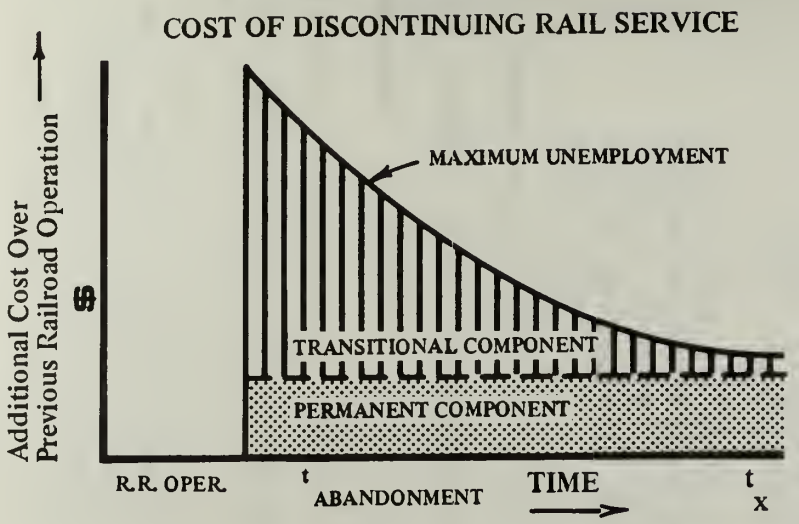


Figure 1b

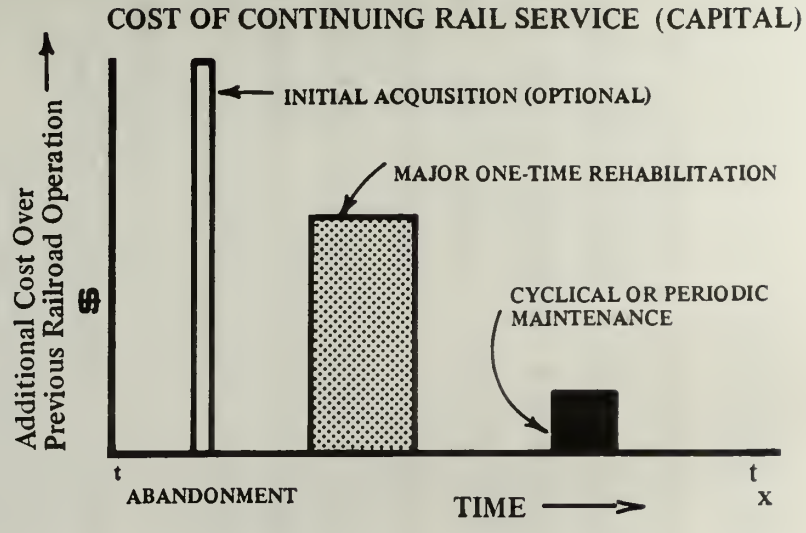


Figure 1c

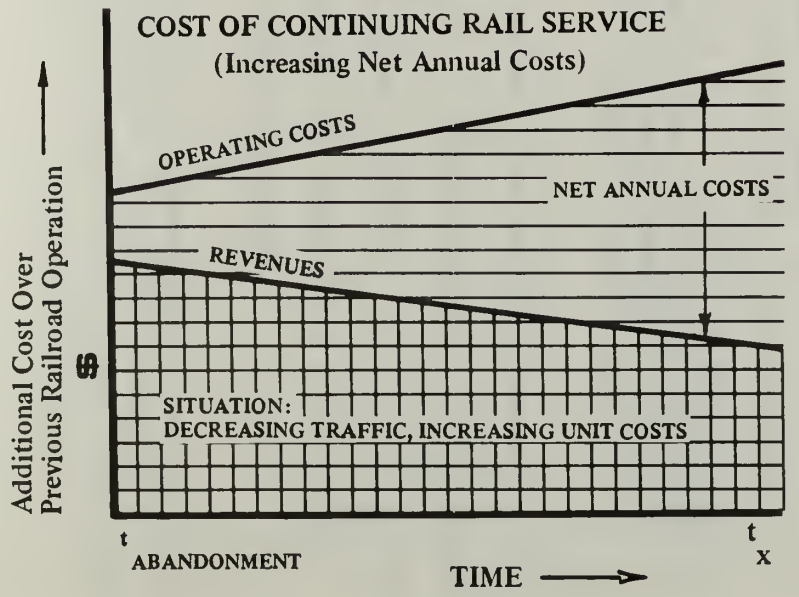
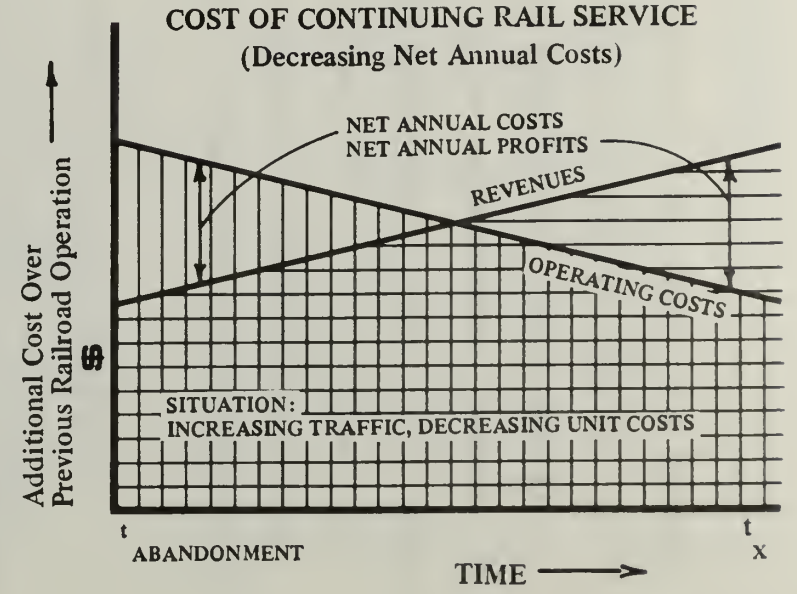


Figure 1d



II. THE STATE RAIL SYSTEM

This chapter provides a brief overview of the state rail system, of which the light density lines analyzed in detail in Chapters IV and V and in Appendix A are only a small component. Light density lines, which have or may be the subject of an abandonment, amount to less than ten percent of the total state rail mileage and a far smaller proportion of originating or terminating carloads.[1] The purpose of the chapter is to "set the scene" for those not intimately familiar with the location and functioning of the various main and branchlines in Montana.

Federal regulations require that state rail plans must:[2]

> "Contain an illustration of the entire State rail system on suitable scale maps of the State highway system (such as a reduction of the County Highway Planning Series of maps), designating with respect to each line listed under paragraphs (c)(3)(iii), (iv), and (v) of this section, including all lines connecting to them:
>
> (i) The operating carrier or carriers,
> (ii) Freight traffic density, and
> (iii) Location of passenger service on such lines.
>
> These maps shall be accompanied by a written description of the service provided on each line, including an identification, at the two-digit level of the Standard Transportation Commodity Code, of the commodity types carried on each line."

These requirements are minimal. Rather than simply focusing on light density lines which have been, are in the process of, or may be abandoned, the physical and operating characteristics of the state rail system and its usage in moving commodities to, from, and internally within Montana are briefly presented in this chapter.

1/ In addition, the Milwaukee is proposing the abandonment of its 745 mile mainline across Montana (15 percent of the rail mileage). Total rail mileage subject to abandonment amounts to over 1200 miles or 25 percent of total route mileage.

2/ 49 CFR Part 266.15(c)(2).

A. Physical Characteristics

As shown in Figure 2, Montana's rail system consists of approximately 4800 route miles of track operated primarily by four Class I and two Class II carriers.[1/]

The dominant carrier is the Burlington Northern, which in 1979 operated 3520 route miles covering all portions of the state. Nationwide, the BN operates 24,639 route miles in 19 states and two Canadian provinces. It extends from the Great Lakes and Mississippi Valley through the grain belt to various points in the Pacific Northwest. Its two east-west mainlines pass through northern and southern Montana.[2/] In 1976, the BN originated or terminated 149 million tons and earned revenues of over 1.5 billion dollars on a systemwide basis. Locally in Montana, the railroad originated or terminated over 30 million tons amounting to approximately $350 million in revenues in 1977. The BN accounted for about 92.5 percent of the state's rail tonnage and 88.5 percent of the total freight revenues in 1977. Figure 3 shows Burlington Northern lines in Montana.

The Chicago, Milwaukee, St. Paul and Pacific Railroad, commonly known as the Milwaukee Road, also extends from Chicago and Louisville gateways in the midwest through the northern grain belt states and

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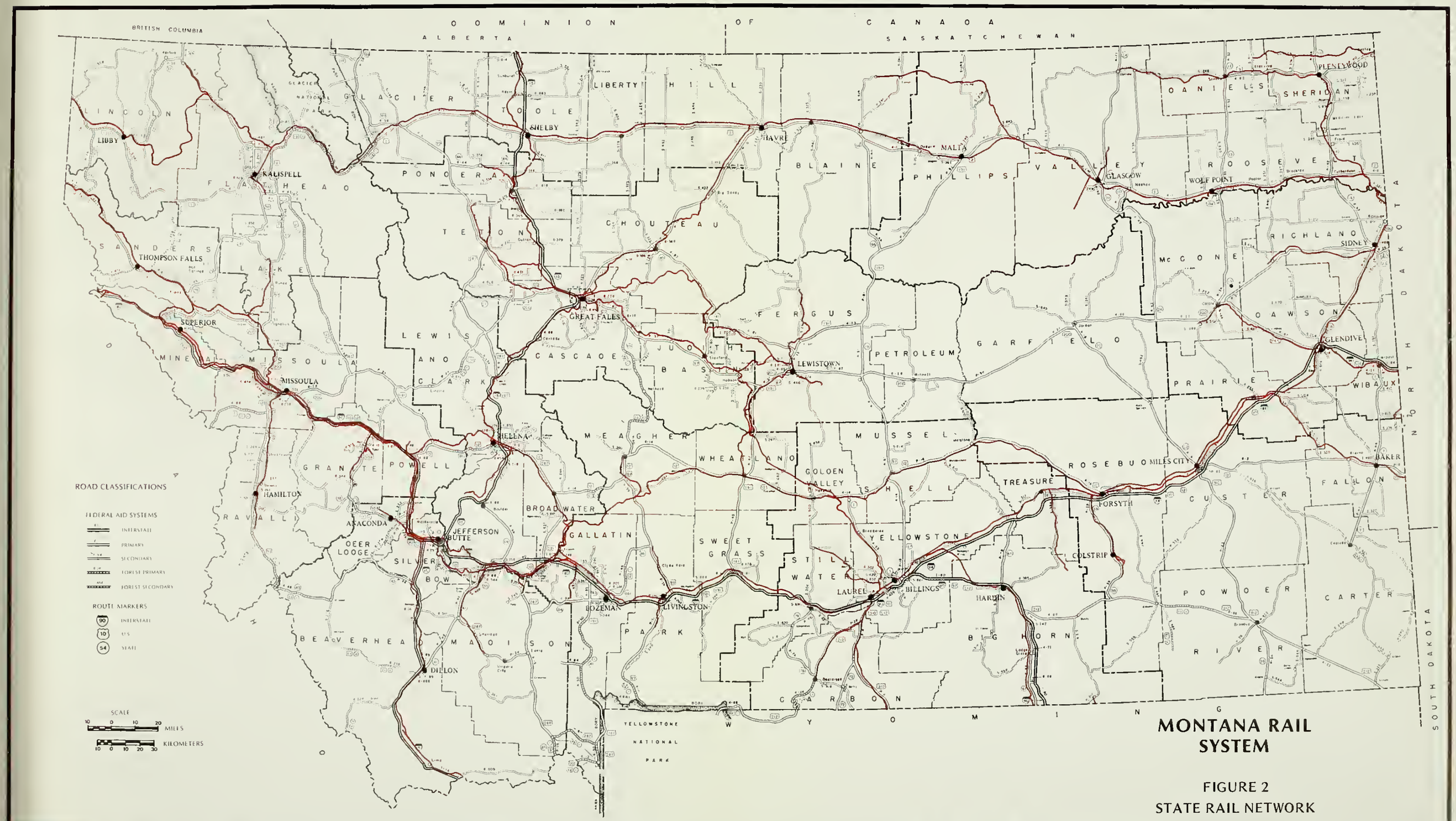
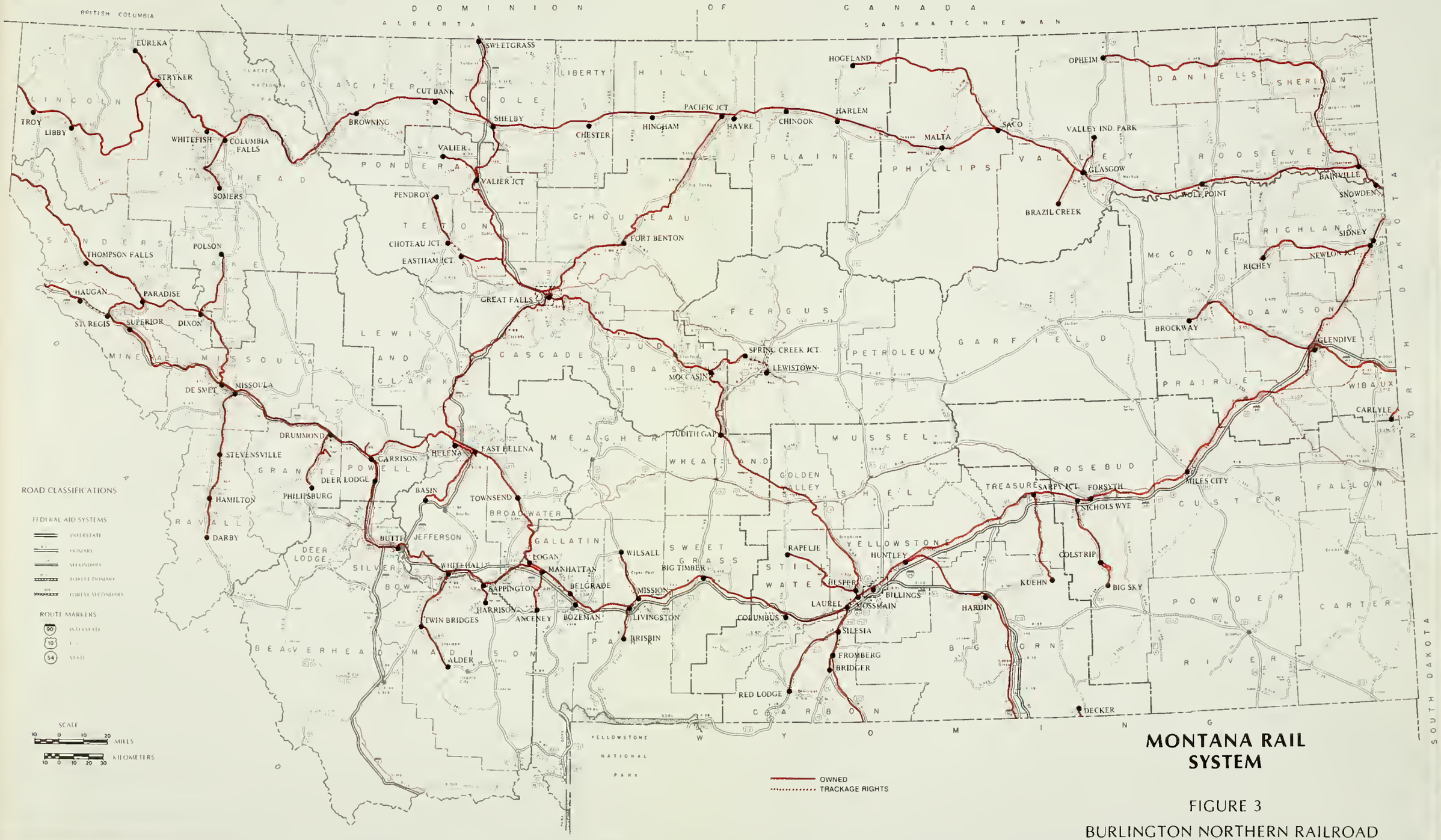
1/ Class I carriers are the Burlington Northern RR; the Chicago, Milwaukee, St. Paul and Pacific RR; the Union Pacific RR, and the Soo RR. Class II carriers (gross revenues of less than ten million dollars annually) include the Butte, Anaconda & Pacific RW and the White Sulphur Springs and Yellowstone Park RW.

2/ The southern route was formerly the Northern Pacific and the northern route the Great Northern prior to their merger with the Chicago, Burlington and Quincy Railroad in 1970.



MONTANA RAIL SYSTEM

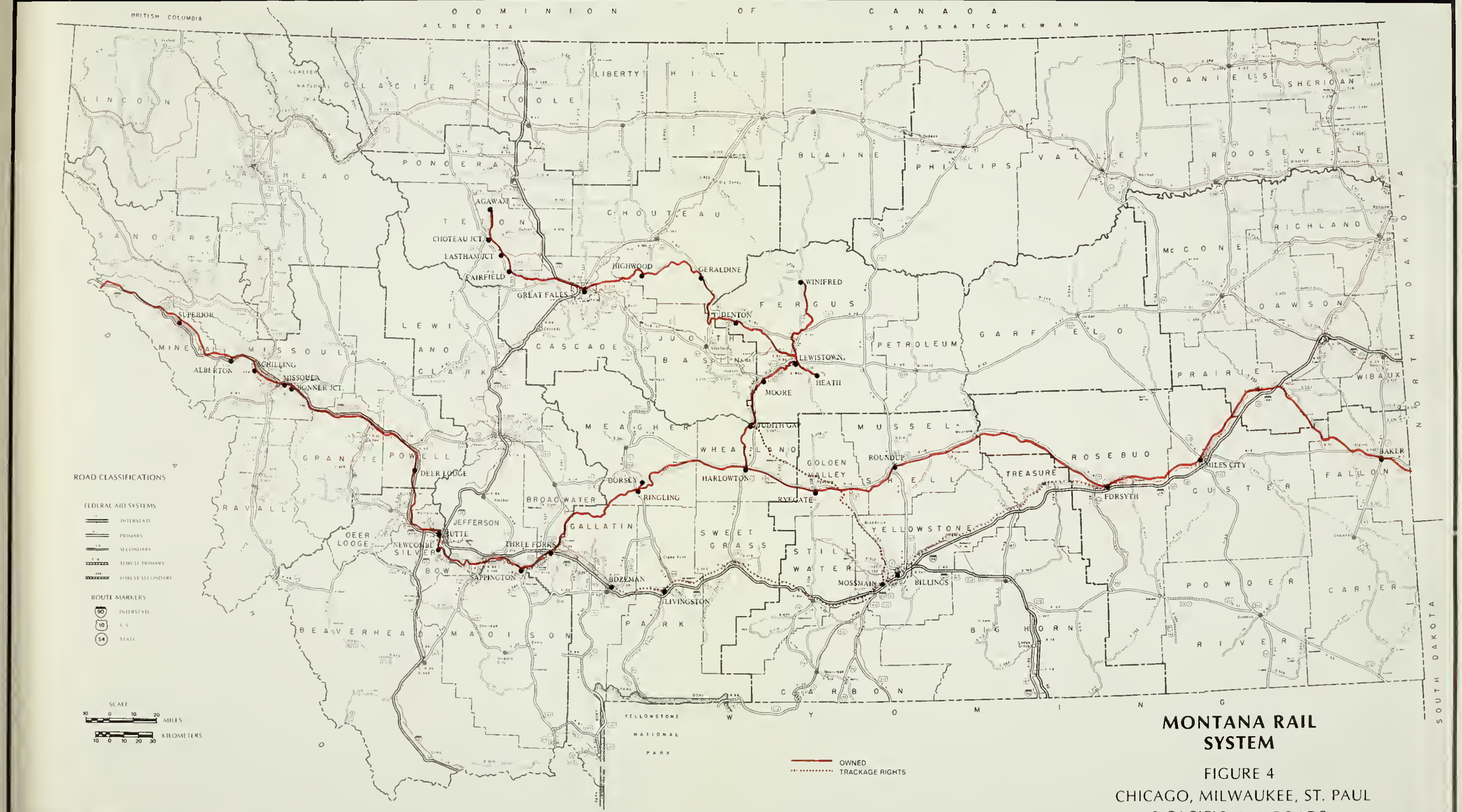
FIGURE 2
STATE RAIL NETWORK



MONTANA RAIL SYSTEM

FIGURE 3

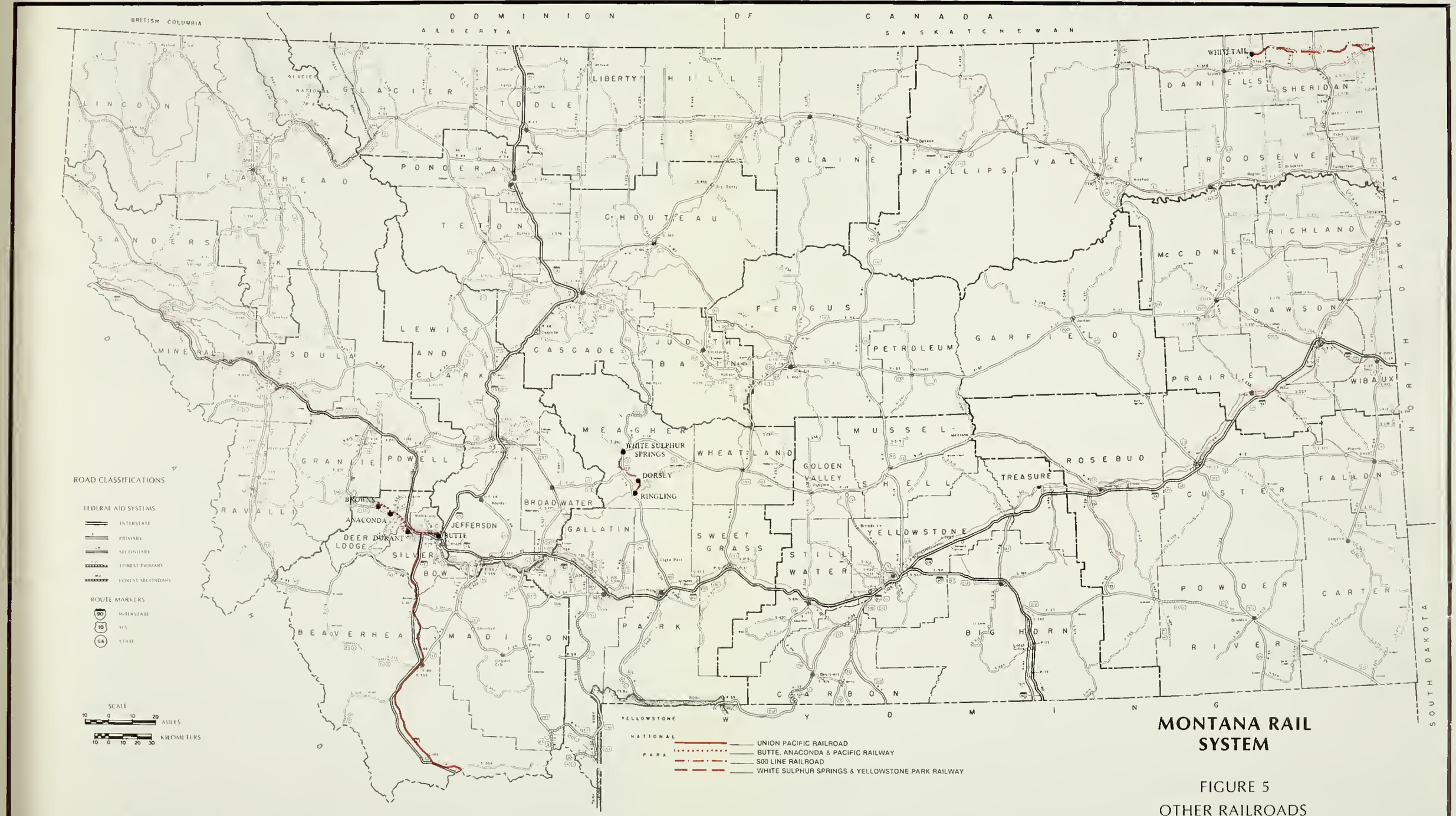
BURLINGTON NORTHERN RAILROAD



MONTANA RAIL SYSTEM

FIGURE 4

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROADS



MONTANA RAIL SYSTEM

FIGURE 5
OTHER RAILROADS

Montana to its western termini at Seattle and Portland. The Milwaukee operates 9,800 route miles in 16 states. Its east-west mainline passes through southern and central Montana. The Milwaukee operates 1048 route miles in Montana and originated or terminated approximately 1.5 million tons amounting to roughly $34 million in freight revenues in 1977. The railroad accounted for about 4.5 percent of the state's rail tonnage and 8.5 percent of the total freight revenues in the same year. Figure 4 shows Milwaukee lines in Montana.

The remaining four railroads accounted for about three percent of the state's rail tonnage and total freight revenues in 1977. The Union Pacific operates a line extending north from Pocatello, Idaho, to Butte. The Soo Line operates a branchline west to Whitetail in northeastern Montana. The Butte, Anaconda and Pacific Railway services the copper mining industry in the Butte area. The White Sulphur Springs and Yellowstone Park Railway is a tributary to the Milwaukee in central Montana. Figure 5 shows the location of these lines in the state.

B. Operational Characteristics

For analysis purposes, the Montana rail system has been divided into the 57 segments shown in Table 1, which summarizes the following information:

- Railroad line designation and termini (or state border)
- FRA functional class
- FRA track class (maximum)
- Average originating and terminating tonnage in 1977
- Principal traffic generating points
- Major commodities originating and terminating on-line

TABLE 1

RAILROAD ROUTE SEGMENTS IN MONTANA

Railroad ML or BL	Termini or State Border	Length[2] Miles	FRA Funct Class[3]	FRA Track Class[4]	Average 1977 Orig & Term Traffic (tons X 10^3)	% of Total Carloads
BURLINGTON NORTHERN RR						
MD 1st Sub ML	ND Line-Havre	287.2	AM	4	590	1.9
MD 2nd Sub ML	Havre-Conkelley	244.2	AM	4	1,140	3.1
MD 3rd Sub ML	Pacific Jct-Great Falls	119.9	AB	3	380	1.1
MD 4th Sub ML	Great Falls-Sweet Grass	136.8	AB	2,3	260	0.8
MD 5th Sub ML	Mossmain-Great Falls	222.7	AB	4	850	2.9
MD 6th Sub BL	Bainville-Opheim	146.6	BB	3	240	0.7
MD 7th Sub BL	Saco-Hogeland	79.3	BB	2	20	0.1
MD 9th Sub BL	Power-Pendroy	44.5	BB	2	20	-
MD 10th Sub BL	Valier Jct-Valier	17.4	BB	1	50	0.1
MD 11th Sub BL	Spring Creek Jct-Moccasin	21.5	BB	3	10	-
MD 12th Sub BL	Hesper-Rapelje	38.2	BB	2	10	-
YD 1st Sub ML	ND Line-Glendive	39.1	AM	4	70	0.3
YD 2nd Sub ML	Glendive-Forsyth Forsyth-Huntley Huntley-Laurel	123.8 89.3 27.6	AM BM AM	4 4 4	1,980	7.7
YD 3rd Sub ML	WY Line-Huntley	102.0	AM	4	10	-
YD 6th Sub BL	ND Line-Carlyle	2.9	BB	1	-	-
YD 7th Sub BL	Glendive-Snowden	70.8	AB	3	940	3.3

% of Total Tonnage	% of Total Revenue	Principal Traffic Generating Points[5]	Major Commodities Orig & Term On-line[6]	See Comments
1.8	3.1	Poplar(a), Macon(a) Wolf Point(b), Havre(b)	wheat(75), gasoline(15)	7
3.5	5.9	Hingham(a), Joplin (a), Shelby(a), Union Oil(a), Cutbank (a), Conkelley(d)	wheat(35), bauxite(25), aluminum slabs, ingots (15)	7
1.5	2.1	Big Sandy(a), Fort Benton(a), Carter (a), Black Eagle(c)	wheat(70), copper shapes(20)	
0.8	1.3	Dutton(a), Conrad(b)	wheat(55), barley(20)	
2.6	3.2	Great Falls(d)	wheat(65), food products (20), barley(5)	
0.7	0.8		wheat(80)	
0.1	0.1		wheat(80)	
-	0.1		wheat(80)	8
0.1	0.3		wheat(50), barley(40)	
-	-			9
-	-			
0.2	0.4	Glendive(a)	wheat(35), gravel(25)	10
6.0	8.3	Fallon(a), Hysham(a), East Billings(b), Billings(e), Laurel (c)	bituminous coal(20), petroleum products(15), sugar beets(15), automobiles/trucks(10), food and kindred products (10)	10
-	0.1			
-	-			11
2.8	1.3	Sidney(d), Cecil(c)	lignite(45), sugar beets (30), beet sugar(15)	12

Railroad ML or BL	Termini or State Border	Length[2] Miles	FRA Funct Class[3]	FRA Track Class[4]	Average 1977 Orig & Term Traffic (tons X 10^3)	% of Total Carloads
BURLINGTON NORTHERN RR (cont)						
YD 8th Sub BL	Newlon Jct-Richey	45.1	BB	2	20	0.1
YD 10th Sub BL	Glendive-Brockway	64.3	BB	3	50	0.1
YD 11th Sub BL	Nichols-Big Sky	39.1	BB	2	7,530	18.1
YD 12th Sub BL	Sarpy Jct-Kuehn	35.1	BM	3	4,750	11.3
YD 13th Sub BL	WY Line-Decker	6.0	BM	3	3,570	9.8
RMD 1st Sub ML	Laurel-Livingston	100.5	AM	4	110	0.4
RMD 2nd Sub ML	Livingston-Missoula	242.1	AM	4	1,720	7.5
RMD 3rd Sub ML	Missoula-ID Line	157.6	AM	4	760	4.0
RMD 4th Sub ML	Logan-Butte Butte-Garrison	70.6 51.1	AB BB	4 4	170	0.9
RMD 5th Sub ML	DeSmet-Paradise	92.3	BM	4	580	2.1
RMD 7th Sub ML	WY Line-Laurel	54.4	BM	3	70	0.2
RMD 9th Sub BL	Red Lodge-Silesia	34.5	BB	3	-	-
RMD 10th Sub BL	Mission-Wilsall	23.0	BB	2	10	-
RMD 11th Sub BL	Livingston-Brisbin	10.3	BB	3	10	-
RMD 12th Sub BL	Manhattan-Anceney	15.2	BB	2	10	-
RMD 13th Sub BL	Sappington-Harrison	10.0	BB	2	10	-
RMD 14th Sub BL	Whitehall-Alder	45.6	BB	2	10	-
RMD 15th Sub BL	Great Falls-Helena Helena-Basin	97.8 42.2	AB BB	3 2	350	1.0
RMD 16th Sub BL	Drummond-Philipsburg	26.0	AB	3	10	0.4

% of Total Tonnage	% of Total Revenue	Principal Traffic Generating Points[5]	Major Commodities Orig & Term On-line[6]	See Comments
0.1	0.1		wheat(80)	
0.1	0.3		wheat(80)	
22.9	11.0	Colstrip(e), Big Sky(e)	bituminous coal(100)	
14.4	10.4	Kuehn(e)	bituminous coal(100)	
10.8	6.7	Decker(e)	bituminous coal(100)	
0.3	0.5	Columbus(a)	chrome/bauxite ores(55), lumber(20), wood chips (15)	10
4.3	6.8	Bozeman(a), Trident (c), East Helena(c) Bradman Spur(a), Bonner(d), Missoula (c)	sawlogs(45), lumber(10), cement(5), lead/copper concentrates(5)	10
2.3	1.6	Woodlin(d), Brownman (a), Thompson Falls (b)	sawlogs(75), lumber(10), wood chips(10)	10
0.5	1.3	Three Forks(a), Butte(a)	non-metallic minerals(30), food & kindred products (20), coke(10)	
1.8	2.5	Schilling(d), Cedars(a)	fiberboard(40), sawlogs (35), lumber(15), wood chips(5)	
0.2	0.2		stone(60)	
-	-			
-	-			
-	-			
-	-			
-	-			
0.3	0.6	Alder(a)	talc(90)	
1.1	1.1	Montana City(c)	cement(60), abrasives (10), wood chips(10), wheat(10)	
-	-			

Railroad ML or BL	Termini or State Border	Length[2] Miles	FRA Funct Class[3]	FRA Track Class[4]	Average 1977 Orig & Term Traffic (tons X 10^3)	% of Total Carloads
BURLINGTON NORTHERN RR (cont)						
RMD 17th Sub BL	Missoula-Darby	65.9	BB	3	20	0.1
RMD 18th Sub BL	Dixon-Polson	33.4	AB	3	140	0.6
RMD 19th Sub BL	Haugan-ID Line	19.7	BB	2	2,680	7.1
SD 1st Sub ML	Conkelley-ID Line	141.7	AM	4	920	3.6
SD 12th Sub BL	Stryker-Eureka	23.2	BB	2	130	0.5
SD 17th Sub BL	Columbia Falls-Somers	24.9	BB	2	140	0.6
CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RR						
DD 4th Sub ML	SD Line-Miles City	114.7	BM	4	50	0.4
MD 3rd Sub ML	Miles City-Harlowton	216.7	BM	4	90	0.3
MD 4th Sub ML	Harlowton-Three Forks	113.9	BM	4	10	-
MD 5th Sub ML	Three Forks-Deer Lodge	112.1	BM	4	150	0.9
MD 6th Sub ML	Deer Lodge-Alberton	110.8	BM	4	490	1.9
MD 7th Sub ML	Alberton-ID Line	77.5	BM	4	-	-
MD 10th Sub BL	Harlowton-Lewistown Yard	61.3	AB	3	20	0.1
MD 11th Sub BL	Lewistown Yard-Heath	9.2	BB	2	20	0.2
MD 12th Sub BL	Winifred Jct-Winifred	42.7	BB	2	10	-
MD 13th Sub BL	Lewistown Yard-Falls Yard	134.5	AB	3	220	0.5
MD 14th Sub BL	Falls Yard-Agawam	55.6	BB	2	300	1.1
UNION PACIFIC RR						
ID 4th Sub ML	ID Line-Butte	133.3	BM	4	650	2.1

% of Total Tonnage	% of Total Revenue	Principal Traffic Generating Points[5]	Major Commodities Orig & Term On-line[6]	See Comments
0.1	0.1		lumber(70)	
0.4	0.4	Dunham(b)	wood chips(40), lumber (30), sawlogs(20)	
8.1	9.2	Deborgia(e)	bituminous coal(100)	13
2.8	6.0	Columbia Falls(b), Libby(d), Troy(a)	lumber(45), wood chips (20), non-metallic minerals(15), sawlogs(10)	7
0.4	0.9	Fortine(a), Eureka(a)	lumber(70), wood chips(25)	
0.4	1.0	Kalispell(b)	lumber(50), wood chips(35), sawlogs(10)	
0.1	0.4		sugar beets(20)	
0.3	0.3		bentonite(50), wheat(20)	
-	-		wheat(50)	
0.4	1.0	Butte(a), Deer Lodge(a)	lumber(25), wood chips (20), food products(10)	
1.5	2.9	Bonner(a), Missoula (a), Schilling(c)	fiberboard(30), wood chips(25), lumber(25), chemicals(10)	
-	-			
0.1	0.1		wheat(70), barley(30)	
0.1	0.2		gypsum(30), wallboard(30), paper(20)	
-	0.1		wheat(90)	
0.7	1.2	Lewistown(a), Denton (a), Geraldine(a)	wheat(70), barley(30)	
0.9	1.6	Great Falls(b), Fair-field(a)	wheat(30), barley(15), primary copper shapes(20)	14
2.0	1.3	Barretts(a), Maiden Rock(a), Silver Bow (d)	phosphate rock(25), crusted rock(20), pro-phillite(15), coke(15)	

TABLE 1

RAILROAD ROUTE SEGMENTS IN MONTANA
(Continued)

Railroad ML or BL	Termini or State Border	Length[2] Miles	FRA Funct Class[3]	FRA Track Class[4]	Average 1977 Orig & Term Traffic (tons X 10^3)	% of Total Carload
SOO LINE RAILROAD CO.						
WD 6th Sub BL	Whitetail-ND Line	56.9	BB	2	50	0.1
BUTTE, ANACONDA & PACIFIC RAILWAY CO.						
ML	Butte-Anaconda	25.7	-	3	unk.	0.1
Brown's Spur	Anaconda-Brown	6.2	-	3		
WHITE SULPHUR SPRINGS & YELLOWSTONE PARK RAILWAY CO.						
ML	Ringling-White Sulphur Springs	22.9	-	1	60	0.1

1/ Abbreviations used include the following:
- ML Mainline. Line handles through (bridge) traffic in addition to serving locally originating or terminating traffic.
- BL Branchline. Line handles only local originating or terminating traffic.
- Sub. Subdivision
- MD Montana Division, Burlington Northern RR
- SD Spokane Division, Burlington Northern RR
- RMD Rocky Mountain Division, Burlington Northern RR
- YD Yellowstone Division, Burlington Northern RR
- DD Dakota Division, Chicago, Milwaukee, St. Paul and Pacific RR
- MD Montana Division, Chicago, Milwaukee, St. Paul and Pacific RR
- WD Western Division, Soo Line RR
- ID Idaho Division, Union Pacific Railroad

2/ Does not include industrial tracks or spurs.

3/ Source: U. S. Department of Transportation, Final Standards, Classification, and Designation of Lines of Class 1 Railroads in the United States, Volume II, January 19, 1977. Codes used are as follows:
- AM - Category A mainline
- BM - Category B mainline
- AB - Category A branchline
- BB - Category B branchline

No designation is shown for Class II railroads or subsidiaries of Class I railroads.

% of Total Tonnage	% of Total Revenue	Principal Traffic Generating Points[5]	Major Commodities Orig & Term On-line[6]	See Comments
0.2	0.3		wheat(90)	
0.7	0.8	Anaconda (e)		
0.2	0.2	White Sulphur Springs(a)	wood chips(75), wheat (20)	15

4/ Track Class for freight operations:
- 1 - Maximum speed of 10 mph
- 2 - Maximum speed of 25 mph
- 3 - Maximum speed of 40 mph
- 4 - Maximum speed of 60 mph
- 5 - Maximum speed of 80 mph

Owning railroads may permanently or temporarily restrict maximum operating speeds to lower limits. More complete information on allowable speeds is given in railroad timetables and slow orders.

5/ Stations generating and/or receiving 50,000 tons of traffic per year in 1977. Codes following station name indicate approximate amount of traffic as follows:
- a - 50 to 100,000 tons/year
- b - 100 to 200,000 tons/year
- c - 200 to 400,000 tons/year
- d - 400 to 800,000 tons/year
- e - over 800,000 tons/year

6/ Figures in parenthesis indicate approximate percentages of the major commodities shipped or received on portion of mainline or branchline. Percentages determined on basis of the number of carloads reported in the FRA/ICC one percent waybill sample for 1977.

NOTES:

7. Segment is a portion of the Hi-Line Route. Passenger service is provided via NRPC Trains 7/8 (service frequency - four trips per week in each direction).

8. Joint BN-MILW ownership between Eastham Jct and Choteau Jct, with MILW maintenance.

9. BN has trackage rights over 9.0 miles of MILW trackage between Spring Creek Jct and Lewistown.

10. Passenger service is provided via NRPC Trains 17/18 (service frequency - three trips per week in each direction).

11. Total branchline length is 20.8 miles from Beach to Carlyle.

12. Actual distance is 79.5 miles of which 8.7 miles is in North Dakota.

13. BN has trackage rights over 18.7 miles of MILW trackage between St. Regis and Haugan.

14. Joint BN-MILW ownership between Emerson Jct and Dracut Jct, with BN maintenance.

15. MILW owns 3.5 miles of track which is leased to the WSS & YP.

The data shown in the table identify the importance of each segment in terms of the amount and type of traffic generated. The table also indicates the functional importance of each segment and the general physical condition of the track structure. Most segments only carry traffic originating or terminating on the line (or a connecting line) and hence, their reason for being lies in the traffic generated. Through or overhead (interstate) traffic is largely restricted to 17 segments (ten Burlington Northern, six Milwaukee, and one Union Pacific) classified as being mainlines in the table. Several of the mainline segments also originate and terminate significant tonnages; others generate very little traffic (e.g., the six Milwaukee mainline segments).

Figure 6 shows, in graphic form, the classification of rail lines in Montana. All lines are classified into one of five groups which were established by FRA in response to the study mandated by Section 503 of the 4R Act. These groups are defined below:[1/]

Category		Description
A	Mainline	Meets at least one of the following tests: 1. High freight density. Carries at least 20 million gross tons per year. 2. Serves major markets. Provides rail route linkage for transportation planning zones generating at least 75,000 carloads of freight annually. 3. National defense route. Route essential in the Strategic Rail Corridor Network (STRACNET).

1/ U. S. Department of Transportation, Final Standards, Classification, and Designation of Lines of Class I Railroads in the United States, January 19, 1977, pp. 40-43.

Category		Description
B	Mainline	A through or feeder route which carries less than 20 million gross tons, but at least 5 million gross tons annually and which fails to qualify for Category A mainline status on the basis of either the need to provide service to major markets or considerations of national defense.
A	Branchline	A rail route handling at least 1.0 but less than 5.0 million gross tons.
B	Branchline	A rail route carrying less than 1.0 million gross tons
Class II R.R.		Gross revenue of less than $10 million per year.

Category A mainlines comprise 30 percent of the route mileage in Montana. They include most of the Burlington Northern's two east-west mainlines and the "coal" line across Wyoming to Lincoln, Nebraska.[1/] The northern route carries roughly 27 to 30 million gross tons per year, whereas the traffic density on the southern route runs between 12 and 15 million gross tons east of Huntley and increases to 35 million gross tons east of Glendive from coal shipments originating in southeastern Montana. Traffic on the route to Lincoln presently averages around 12 million gross tons for the portion of the line within Montana. These density figures represent the total weight of locomotives, cabooses, freight cars (empty) and commodities passing over a track during a particular

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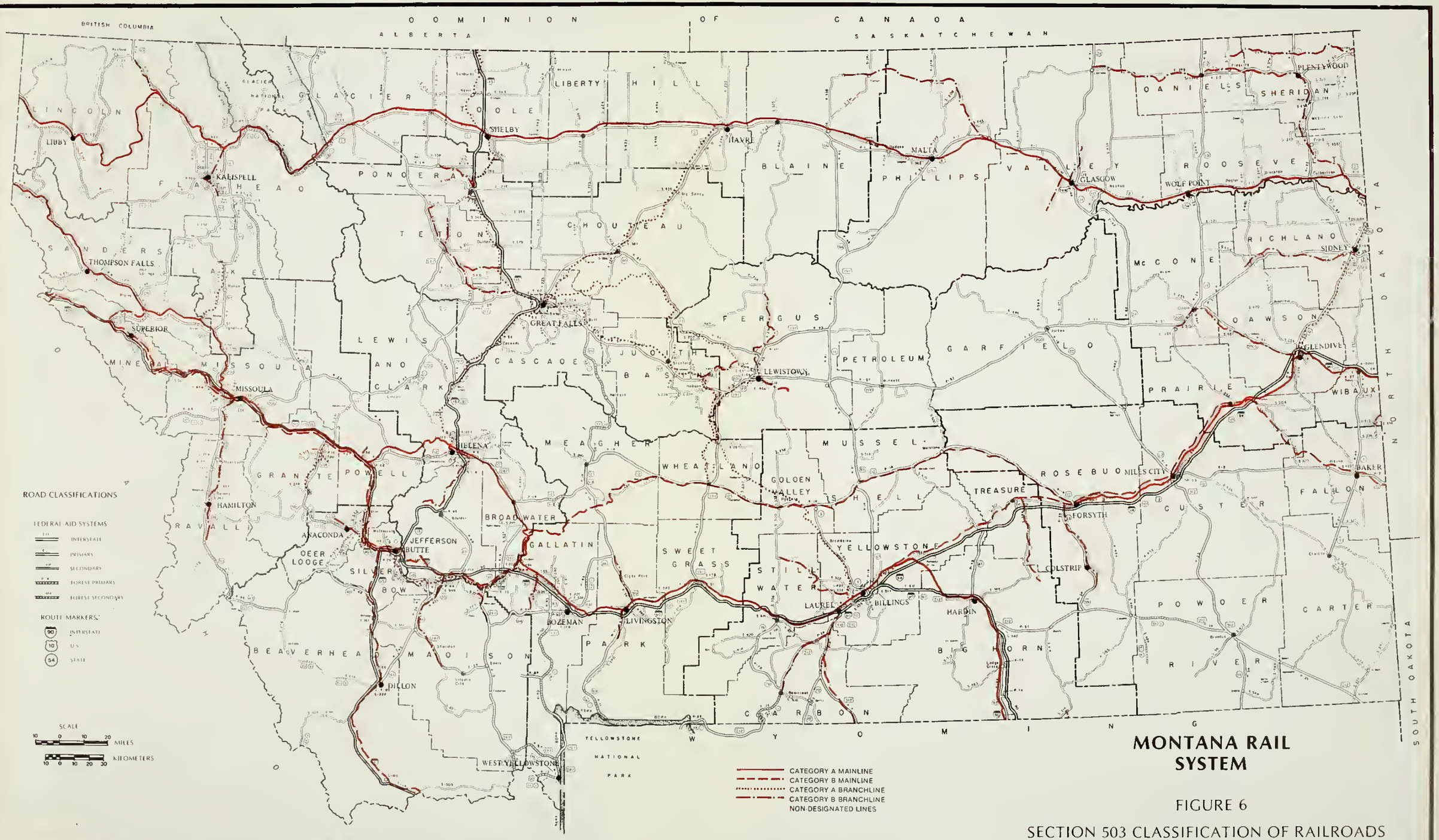
1/ More specifically, the BN Montana Division - 1st and 2nd Subdivisions, and the BN Spokane Division - 1st Subdivision (the Hi-Line Route); the BN Yellowstone Division - 1st and 2nd Subdivisions and the BN Rocky Mountain Division - 1st, 2nd and 3rd Subdivisions (the southern route); and the BN Yellowstone Division - 3rd Subdivision.



MONTANA RAIL SYSTEM

FIGURE 6

SECTION 503 CLASSIFICATION OF RAILROADS

year (1977 or 1978). While these figures are not particularly large (mainlines in other parts of the country carry appreciably higher tonnages), they occur over lines which are largely single track with frequent passing sidings.

Category B mainlines constitute 24 percent of the route mileage in Montana. They include the Milwaukee east-west mainline through central Montana, a portion of the Burlington Northern's southern east-west mainline, the Burlington Northern's north-south line through Casper, Wyoming and the Burlington Northern's spur to St. Regis (between Paradise and DeSmet), and the Union Pacific's north-south line between Butte and Pocatello, Idaho.[1/] The Milwaukee carries between ten and eleven million gross tons per year on its mainline across Montana.[2/] The Burlington Northern line carries around 17 million gross tons and the Union Pacific line a little over five million tons each year.

Category A branchlines constitute 23 percent of the route mileage in Montana. Eleven different lines having densities ranging from less than one up to four million gross tons per year are included in this category.[3/]

1/ More specifically, the MILW Dakota Division - th Subdivision, the MILW Montana Division - 1st, 2nd, 3rd, 4th, and 5th Subdivisions; the BN Yellowstone Division - 2nd Subdivision between Huntley and Forsyth; the BN Rocky Mountain Division - 5th and 7th Subdivisions; and the UP Idaho Division - 4th Subdivision.

2/ Based on 1977 traffic. Recent traffic is considerably less given the severe financial problems faced by the Milwaukee.

3/ The eleven lines are the BN Montana Division - 3rd, 4th and 5th Subdivisions; the BN Yellowstone Division - 7th and 12th Subdivisions; the BN Rocky Mountain Division - 4th, 15th, 16th, and 18th Subdivisions; the MILW Montana Division - 10th and 13th Subdivisions.

Category B branchlines account for 21 percent of the route mileage. Most lines have densities of less than 500 thousand tons per year. Category B branchlines are the ones most likely to be abandoned in the future by the owning railroads.

Shown separately are Class II railroads, which for the most part carry traffic volumes of one million tons or less per year. These railroads account for about one percent of the total route mileage.

Figure 7 shows the general types of signalization systems used on rail lines in Montana. Most mainlines have either automatic block or traffic control systems.[1/] Branchlines invariably rely on timetables and train orders.

Figure 7 also shows the maximum allowable operating speeds for freight trains. This does not mean that these speeds are being uniformly achieved. Most lines have occasional speed restrictions of both a permanent and temporary nature. The former occurs on account of (1) permanent physical constraints such as sharp horizontal curves or long structures, (2) local ordinances limiting train speeds through congested areas, and (3) interlockings or turnouts which require reduced speeds. The latter often reflects a lowering of speeds until deferred maintenance needs can be met. Occasionally a railroad will further restrict operating speeds to something less than the maximum allowable for that track class for

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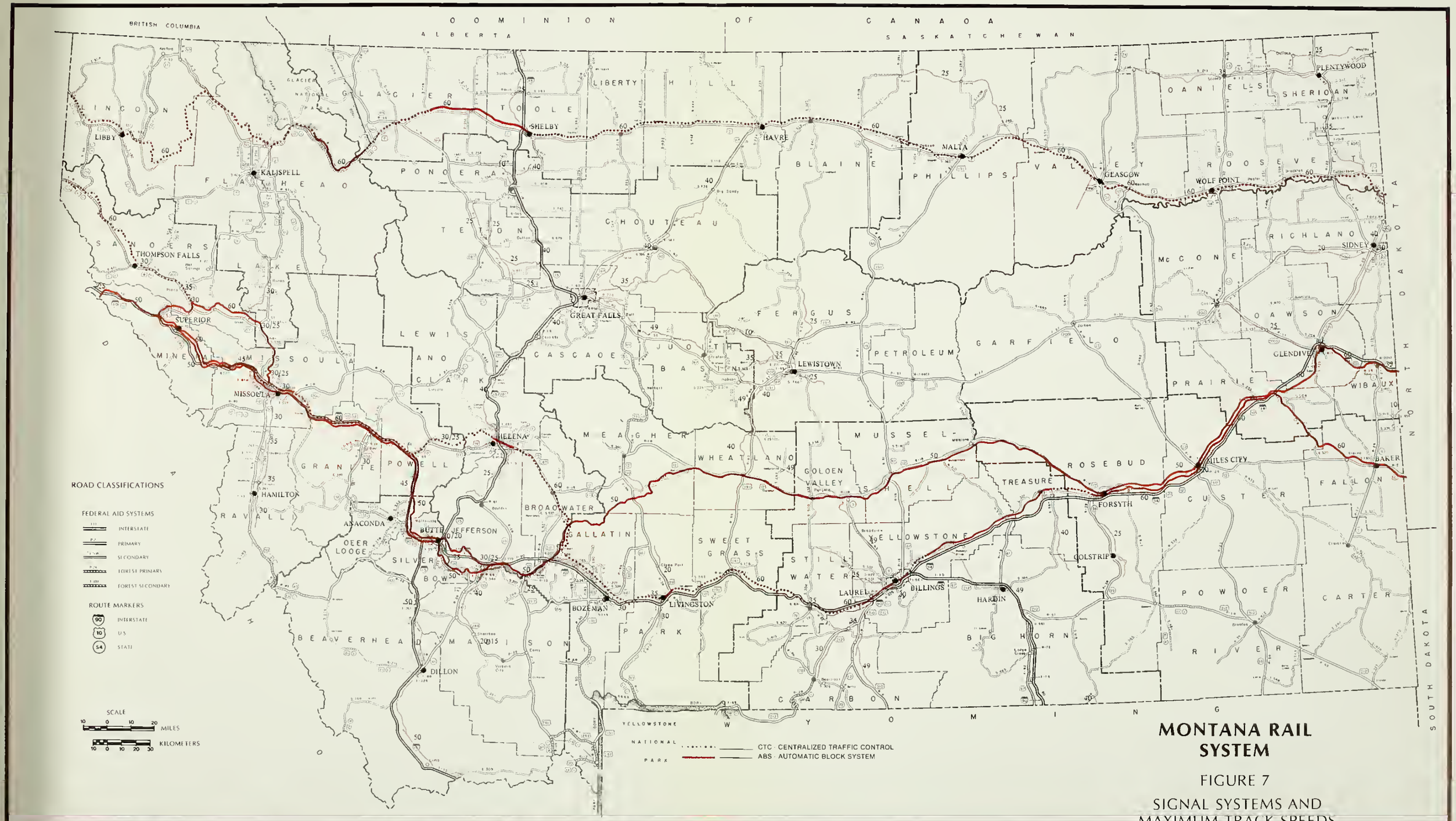
1/ The three exceptions are the UP's Idaho Division - 4th Subdivision which has an automatic block system over only a small portion of its total length, the Burlington Northern's Yellowstone Division - 3rd Subdivision, and the Burlington Northern's Rocky Mountain Division - 7th Subdivision.



MONTANA RAIL SYSTEM

FIGURE 7

SIGNAL SYSTEMS AND MAXIMUM TRACK SPEEDS

other reasons. In general, the Union Pacific and Burlington Northern tracks are well maintained, thus permitting maximum operating speeds. On the Milwaukee, deferred maintenance has reached the point where trains are often being restricted to 10 mph (or less) operating speeds even though the maximum timetable speed is 25 or 40 mph. This obviously is an untenable situation over the long term.

C. System Usage

One way of showing overall system usage is by means of a density diagram, such as that shown in Figure 8. This figure shows gross traffic densities (in millions of tons per year) in terms of symbols representing five different density ranges. Such diagrams, however, cannot focus on how the rail system is presently being used and what the prospects are for the future.

Rather than simply reporting the tonnages of different commodities carried in the recent past, the need is to understand how the rail system interacts with and supports key sectors of the state's economy. Such an understanding cannot be obtained without an appreciable investment in staff resources and time to carry out micro-scale economic studies having the objective of pinpointing present and future relationships between transport cost and capital investment on one hand and economic activity on the other. All that can be done at this point is to focus on the key commodities presently moving by rail.

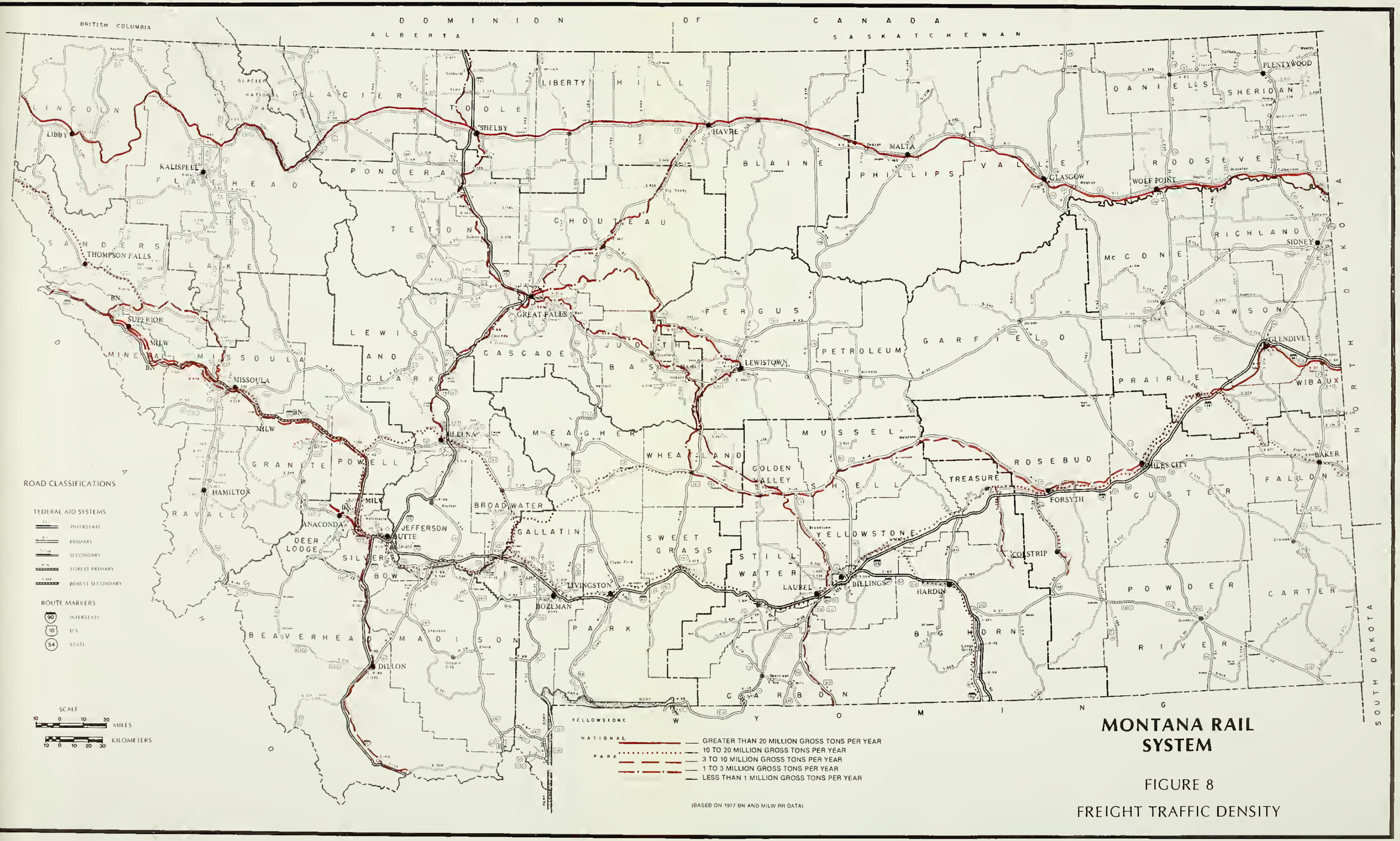
The strength of the rail system in Montana is that it originates far more tonnage than it terminates. In 1977, 24.5 million tons of interstate traffic and 3.2 million tons of local traffic originated in Montana. Only 5.2 million tons were shipped into Montana. A

large proportion of the originating grain traffic was destined to regional markets. Coal shipments were largely to the Midwest and lumber to national markets. On the other hand, most of the traffic coming into the state originated in neighboring or nearby states.

Table 2 provides a profile of the ten major Montana-originating commodities transported by rail. These specific commodities account for 95 percent of the originating tonnage and 90 percent of the corresponding freight revenues in 1977. Many of the commodities had average hauls of 1500 to 2000 miles and produced revenues of around $2000 per carload.

Table 3 provides a similar profile of the ten major Montana-terminated commodity groups transported by rail. While the top ten commodity groups in total accounted for 89 percent of the terminating tonnage and 60 percent of the corresponding revenues, the characteristics of the individual commodities in each group varied appreciably.

What are the prospects for the future? Will the rail system continue to lose traffic to motor carriers as has been the pattern in recent years? These are difficult but tremendously important questions. The country is entering into a period of considerable uncertainty regarding modal competition. On one hand, there are signs that the gradual shift away from rail to motor carrier may diminish (or even reverse) as the costs of replacement equipment, insurance and fuel continue to escalate. On the other, the shift away from rail for the transport of at least several of the major originating commodities (e.g., wheat, lumber) may continue unless service and car supply is improved. The advent of motor carrier



MONTANA RAIL SYSTEM

FIGURE 8

FREIGHT TRAFFIC DENSITY

TABLE 2

PROFILE OF THE TEN MAJOR MONTANA-ORIGINATING COMMODITY GROUPS TRANSPORTED BY RAIL[1/]

Commodity Group [2/]	Approx Annual Tonnage (000)	Principal MT Origins	Major Termination Points (within & outside of MT) [3/]	Relative Importance (incl. % of total) Tonnage	Revenue
Coal and Lignite	18,500	Kuehn, Decker, Colstrip, Big Sky, & Deborgia (bit coal), Cecil (lignite)	Minnesota (53%), Illinois (29%), Wisconsin (12%), Montana (6%)	1st 67.7%	1st 44.9%
Wheat	2,550	Hi-Line Counties, Golden Triangle, NE and Central MT	Washington (60%), Oregon (30%), Montana (10%)	2nd 9.2%	2nd 13.7%
Lumber	1,000	Western MT (Columbia Falls, Libby, Bonner, Missoula, etc.)	National (25% Midwest, 15% Plains, 15% Northeast, 10% Atlantic states)	3rd 3.6%	3rd 12.9%
Wood Chips	1,000	Western MT (Libby, Missoula, etc.)	Regional (Washington, Oregon, Montana)	4th 3.6%	9th 2.3%
Non-metallic Minerals (14)	700	Libby, Bradman Spur, Alder	Partly national, partly regional (Oregon, Washington)	5th 2.5%	4th 3.3%
Saw Logs	600	Thompson Falls, Woolin, Troy	Mostly local (Missoula, Schilling), some Washington	6th 2.1%	10th 1.1%
Clay, Concrete, Glass or Stone Products (32)	500	Montana City, Trident, Three Forks, Barretts	Midwest (non-metallic minerals) Regional (cement)	7th 1.8%	8th 2.6%
Petroleum Products (29)	500	Billings, Union Oil	Regional and Midwest (asphalt, residual oil, petroleum coke)	8th 1.7%	7th 2.8%
Barley	400	Hi-Line Counties, Golden Triangle, Central MT	Washington (30%), Oregon (30%), Minnesota (15%), Montana (15%)	9th 1.4%	6th 3.2%
Pulp, Paper & Allied Products (26)	350	Schilling	Midwest, Northwest, (fiberboard)	10th 1.3%	5th 3.3%

1/ Based on an analysis of the 1977 FRA/ICC waybill sample.
2/ Numbers in parentheses are the corresponding 2-digit STCC code for that group; all other commodity groups are identifiable at the 5-digit STCC code level.
3/ Internal Montana traffic: 14% carloads, 12% tonnage, and 5% revenues.

TABLE 3

PROFILE OF THE TEN MAJOR MONTANA-TERMINATING COMMODITY GROUPS TRANSPORTED BY RAIL[1/]

Commodity Group [2/]	Approx Annual Tonnage (000)	Major Origination Points (within & outside of MT) [3/]	Principal MT Destinations	Relative Importance (incl. % of total) Tonnage	Revenue
Coal and Lignite	1,100	Montana (Colstrip - coal, Cecil - Lignite), Wyoming	Billings, Sidney	1st 21.9%	6th 5.6%
Saw Logs	800	Montana (Woodlin, Thompson Falls, Cedars, Dunham, Libby, Silver City, Philipsburg)	Missoula, Schilling	2nd 15.5%	7th 3.6%
Wheat	550	Hi-Line Counties, Golden Triangle, N.E. & Cent. MT	Great Falls	3rd 10.5%	4th 7.1%
Metallic Ores (10)	450	Washington (bauxite ores), Washington, Colorado (lead concentrates)	Conkelley, East Helena	4th 8.6%	3rd 8.1%
Non-Metallic Minerals (14)	400	Idaho (phosphate rock), Montana (crushed stone)	Silver Bow, Sidney	5th 7.8%	8th 2.5%
Petroleum Products (29)	300	Montana (Union Oil) Midwest (coke)	Billings, Silver Bow	6th 5.4%	2nd 9.5%
Sugar Beets	250	Montana (eastern and central portion of state)	Sidney, Billings	7th 5.3%	9th 1.6%
Food and Kindred Prod. (20)	250	Northwestern and Midwestern States, some local	Billings, Great Falls	8th 4.9%	1st 10.7%
Chemicals (28)	200	Washington, Utah, Midwest, etc.	None	9th 3.9%	5th 6.9%
Wood Chips	150	Deer Lodge, Barnetts, White Sulphur Springs, etc.	Schilling	10th 3.2%	7th 1.3%

1/ Based on an analysis of the 1977 FRA/ICC waybill sample.
2/ Numbers in parentheses are the corresponding 2-digit STCC code for that group; all other commodity groups are identifiable at the 5-digit STCC code level.
3/ Internal Montana traffic: 54% carloads, 61% tonnage, and 21% revenues.

deregulation could have a major impact upon whether the rail system can compete more effectively than it has in the past few years. Thus, projections of market shares and rail volumes are simply not possible in the face of the major changes expected over the next decade.

While the rail system is primarily geared to freight transport, a limited amount of long-distance, intercity rail passenger service is provided by the National Rail Passenger Corporation (Amtrak). Figure 9 shows the routes having rail passenger service as of 1979. Transcontinental east-west service across northern Montana via Havre is provided on a four-day-per-week basis. Transcontinental east-west service across southern Montana via Billings and Butte is provided on a three-day-per-week basis.[1/]

To what extent is existing rail service used for travel to and from points in Montana? Table 4 shows the total number of persons getting on and off the two trains, by Montana stations, for FY 1978. The table indicates that the Empire Builder had a slightly higher total patronage than the North Coast Hiawatha. However, if frequency of service differences are taken into account (the Empire Builder operates four days per week, whereas

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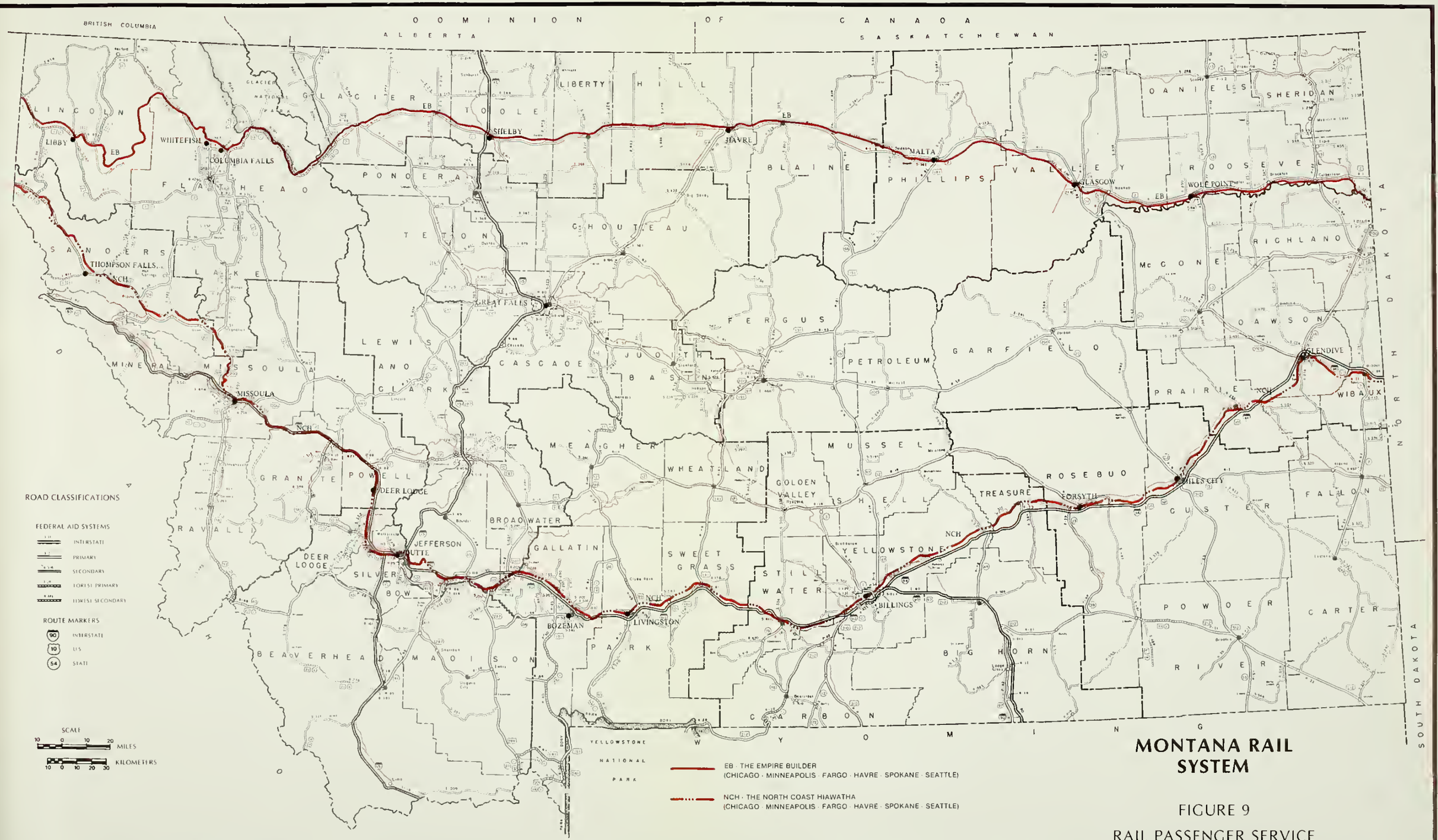
1/ In the Final Report to Congress on the Amtrak Route System (U. S. Department of Transportation, January 1979) the Secretary recommended discontinuance of rail passenger service over the southern route, effective October 1, 1979, and daily service on the northern route. This report was in response to Section 4 of the Amtrak Improvement Act of 1978 (P.L. 95-421). Congress recently rejected a proposed one-year moratorium on USDOT's service reduction plan. Pending legislation reducing the extent of the service cutback is not expected save the North Coast Hiawatha, however.

TABLE 4

AMTRAK ON/OFF FISCAL YEAR 1978
MONTANA STATIONS

NORTHERN ROUTE			SOUTHERN ROUTE		
Station	On	Off	Station	On	Off
WPT (Wolf Point)	2,376	2,356	GLD (Glendive)	2,723	2,521
GGW (Glasgow)	2,906	2,782	MLS (Miles City)	1,511	1,616
MAL (Malta)	1,146	1,178	FYT (Forsyth)	508	482
HAV (Havre)	6,116	6,040	BLG (Billings)	6,671	7,092
SBY (Shelby)	2,253	2,464	LVG (Livingston)	2,466	2,954
CUT (Cut Bank)	1,414	1,261	BOZ (Bozeman	3,415	3,180
BRO (Browning)	354	360	BUT (Butte)	2,707	2,984
GPK (Glacier Park)	1,726	2,333	DRL (Deer Lodge)	494	427
BTN (Belton)	1,227	1,061	MLA (Missoula)	6,194	6,255
WFH (Whitefish)	9,795	9,938	PDS (Paradise)	543	577
LIB (Libby)	1,426	1,420			
TOTAL	30,739	31,193		27,232	28,088



MONTANA RAIL SYSTEM

FIGURE 9

RAIL PASSENGER SERVICE

the North Coast Hiawatha only three), the train on the southern route has somewhat higher usage per run.

Tables 5 and 6 show Amtrak ridership between Montana stations and to and from points east and west of the state for the last three months of 1978. Over 60 percent of the travel was to or from locations outside of Montana, of which two-thirds was to the Pacific Northwest and one-third to the East and Midwest. Both trains arrive and depart during daytime or early evening hours from most stations in Montana.

D. Pending System Adjustments

Of the rail-related issues facing Montana, none is more important or immediate than the financial plight of the Milwaukee, the ultimate outcome of which is difficult to predict. It has and will continue to have a major impact on state rail planning in Montana.

The origins of the dire financial situation faced by the Milwaukee stem from annual losses incurred on a more or less regular basis during the 1970's which finally resulted in bankruptcy being declared on December 19, 1977. Normally when such an event occurs, the firm involved is closed down and the assets are then disposed

TABLE 5

AMTRAK RIDERSHIP FROM MONTANA STATIONS (OCT. 1, 1978 - DEC. 31, 1978)[1/]

NORTHERN ROUTE

Origin Station	Destination WPT	GGW	MAL	HAV	SBY	CUT	GPK	BTN	WFH	LIB	Pacific Northwest[2/]	East and Midwest[3/]	Total Ons
Wolf Point (WPT)	-	7	16	66	38	47	7	0	265	29	444	311	1,230
Glasgow (GGW)	5	-	1	332	32	42	5	8	205	21	493	450	1,594
Malta (MAL)	11	1	-	33	9	10	6	0	56	6	175	671	978
Havre (HAV)	37	189	37	-	72	105	33	21	629	46	849	704	2,722
Shelby (SBY)	21	19	2	33	-	4	4	2	233	51	441	229	1,039
Cut Bank (CUT)	29	21	6	47	1	-	7	8	198	11	358	94	780
Glacier Park (GPK)	5	5	0	20	1	3	-	0	77	8	147	31	296
Belton (BTN)	0	5	0	11	0	3	0	-	10	0	64	22	115
Whitefish (WFH)	138	103	27	302	120	95	60	4	-	46	2,473	1,992	5,360
Libby (LIB)	13	9	4	24	26	7	4	0	18	-	443	123	671
Pacific Northwest	222	233	79	445	218	218	75	30	1,285	215	-	-	3,020
East and Midwest	634	740	256	1,449	461	194	54	39	1,790	242	-	-	5,859
TOTAL OFFS	1,115	1,332	428	2,762	978	728	255	112	4,766	675	5,887	4,627	

1/ Frequency of passenger service - 4 days per week.
2/ Principal destinations from Montana stations to the west are Spokane and Seattle.
3/ Principal destinations from Montana stations to the east are Williston, Minot, Grand Forks, Minneapolic-St. Paul and Chicago.

TABLE 6

AMTRAK RIDERSHIP FROM MONTANA STATION (OCT. 1, 1978 - DEC. 31, 1978)[1/]

SOUTHERN ROUTE

Station	Destination GLD	MLS	FYT	BLG	LVG	BOZ	BUT	DRL	MLA	PDS	Pacific Northwest[2/]	East and Midwest[3/]	Total Ons
Glendive (GLD)	-	14	24	302	58	140	83	14	230	4	266	316	1,451
Miles City (MLS)	10	-	1	85	15	79	45	7	115	3	202	156	718
Forsyth (FYT)	13	0	-	51	9	21	7	16	26	0	72	69	284
Billings (BLG)	202	53	27	-	115	228	152	28	522	15	1,006	806	3,154
Livingston (LVG)	32	8	6	62	-	67	25	0	96	6	363	174	839
Bozeman (BOZ)	59	35	14	112	40	-	25	5	97	16	475	377	1,255
Butte (BUT)	35	19	4	76	13	15	-	123	62	12	756	192	1,307
Deer Lodge (DRL)	6	2	9	15	0	3	123	-	96	1	122	22	399
Missoula (MLA)	120	57	10	269	49	51	31	94	-	16	1,546	551	2,851
Paradise (PDS)	3	2	0	9	2	9	5	0	6	-	137	27	200
Pacific Northwest	133	94	34	510	171	235	396	61	753				2,446
East and Midwest	647	297	129	1,493	390	934	426	53	1,005				5,424
TOTAL OFFS	1,260	581	258	2,984	862	1,782	1,318	401	3,008		4,945	2,690	

Origin

1/ Frequency of passenger service - 3 days per week.
2/ Principal destinations from Montana stations to points west are Spokane and Seattle.
3/ Principal destinations from Montana stations to points east are Bismarck, Fargo, Minneapolis-St. Paul and Chicago.

of with the proceeds going to the creditors. Since closing down a railroad company usually causes severe economic ramifications on firms dependent upon rail service, Congress many years ago set up a special process for reorganizing railroads forced into bankruptcy while at the same time continuing essential services. Upon petitioning for bankruptcy under Section 77 of the Federal Bankruptcy Act, the U. S. District Court overseeing the case appointed a Trustee to oversee the reorganization of the Milwaukee on a self-sustaining basis or its liquidation (or some combination of the two courses of action). The process involved is inherently a confrontation between the interests of the creditors, who seek to prevent any further diminuation of their assets, and the shipping public who seek the continuation of essential rail service.

How did the Milwaukee get into this situation? To understand the underlying cause, one must review the history of the Milwaukee's northwest extension. The Milwaukee was the last of the three transcontinental carriers which developed mainline routes through Montana to Washington and Oregon. Consequently, it was not able to select the best routes through the mountains, nor was it a land grant railroad able to obtain extensive properties through legislation to encourage settlement in proximity to the railroad. The Milwaukee never was able to develop on-line traffic comparable to the Northern Pacific or Great Northern (now Burlington Northern). Most of the Milwaukee's Montana traffic either originates on its central Montana branches -- specifically, the grain lines between Harlowton, Lewistown and Great Falls -- or at Deer Lodge, Bonner, Missoula, or Frenchtown (Schilling) on the mainline. Other than for this traffic,

the mainline is largely a conduit for through traffic moving between the midwest and the west coast. In short, the Milwaukee did not generate enough income on its midwest operations to offset the losses being incurred on its northwest extension.

In the summer of 1978, the Trustee, concluding that the northwest extension was inherently unprofitable, announced a plan whereby Milwaukee Lines west of Butte were to be sold to connecting railroads or to be abandoned. The disposition of the remaining lines was to be held in abeyance until completion of financial studies undertaken by Booz, Allen & Hamilton, a well-known management consulting firm, for the Trustee.

In late April, 1979, the Trustee concluded that the cash flow situation had become so severe that rail service had to be discontinued on a majority of the Milwaukee trackage (including lines in Montana west of Miles City) and petitioned the U. S. District Court to approve this course of action. Normally the ICC has exclusive say over line abandonments; unilateral termination of rail service is only done in extremely dire circumstances. On June 1, 1979, the Court denied the partial embargo requested by the Trustee, since it could find no statutory or other authority for granting the requested relief. This was done reluctantly, as the Court felt that the Trustee's proposal would promote the public interest.[1/] The court decision was a serious blow to the Trustee's efforts to

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1/ The Court also stated that allowing an embargo could "constitute a de facto abandonment," since the Trustee conceded that he would not be able to reorganize the Milwaukee "if it contains the portions sought to be embargoed."

reorganize the Milwaukee and did nothing to solve the railroad's precarious cash position. Consequently, attorneys for the Trustee have filed an appeal to the Court's decision; the original court decision has subsequently been upheld.

On June 19, 1979, the Trustee received Court approval to apply to the FRA for a loan of $20 million.[1/] In approving the loan, the Court ordered the Trustee to immediately "commence proceedings to abandon the Milwaukee's entire system and, to the extent this is not authorized by any Title VIII map not already published, to publish and file such a map as soon as feasible." He further ordered that the Trustee file a plan of reorganization on or before August 6, 1979, "such plan to include reorganization by abandonment and liquidation to the extent deemed advisable or necessary." The Court did not order the Trustee to abandon the entire railroad, but rather to develop and file a reorganization plan which would be the basis for the abandonment of existing routes.

On June 30, 1979, the Milwaukee filed a revised systems diagram map with the ICC showing all lines as subject to an abandonment application within three years. This does not necessarily mean abandonment of the entire Milwaukee system; but rather provides maximum flexibility to the Trustee in deciding which segments are to be eventually included in its core system. It also provides the four month notification required before abandonment applications can be filed with the ICC.

1/ The funds requested are part of the $50 million available through the Emergency Rail Services Act of 1970.

The Milwaukee has also announced its intention to file abandonment applications for all of its lines west of Butte on or about August 8.[1/] These lines have been shown as "subject to abandonment within three years" on its previous systems diagram map filed with the ICC during the summer of 1978. Furthermore, in view of intense publicity surrounding the Trustee's embargo request, the Milwaukee has indicated that it will seek a waiver from the ICC reducing or eliminating the four-month notification requirement before filing abandonment applications for the remaining lines identified in its embargo petition to the U. S. District Court.[2/] Although the ICC can take up to 15 months to rule in abandonment proceedings, the agency has promised expeditious consideration of these applications. Decisions could come before the end of 1979.

The ultimate decision on how the Milwaukee is to be reorganized rests with the U. S. District Court. The Trustee has been directed to submit a plan by August 6. While the specific details of this plan are unknown, it obviously depends heavily on the financial studies conducted for the Trustee by Booz, Allen & Hamilton. The Court is not necessarily bound by this proposal, but can accept all or parts of other plans or proposals from parties recognized by the Court.

1/ The Milwaukee has issued and published in area newspapers Notices of Intent to File Abandonment Applications for all segments west of Butte.

2/ The Milwaukee is seeking a waiver of the four month notification requirement, Montana will file a protest with the ICC of this action as providing inadequate notification to shippers dependent upon Milwaukee service.

As an alternative to a "retrenched" Milwaukee system only serving the midwest, considerable interest has been expressed in recent months in employee and shipper ownership of a railroad which would be a true "replacement and successor" to present railroad management. For years, much controversy has centered around the management and financial practices of the Milwaukee and the railroad's basic desire to compete for rail traffic in Montana and other states. These concepts were given a major boost by the petition of the Trustee in requesting an embargo on nearly 7,000 miles of track and the aggressive action of the State's Congressional delegation in seeking emergency funding for continuing rail service on the Milwaukee and in promoting U. S. Department of Transportation study and development of an employee and shipper ownership plan for the railroad. Both Montana Senators were active participants in the Court proceedings. However, the Court clearly indicated that solutions for continuing the Milwaukee had to be found at the government level. For some time, the Chairman of the Senate Finance Committee has been deeply interested in employee-owned corporate structures; the Montana delegation was able to convince the Chairman of the practicability of such ownership for a railroad and obtain a commitment of support in seeking necessary federal start-up and rehabilitation funding, provided that the firm commitment of regional shippers and railroad employees could be demonstrated.

This development spurred action at the state level. A prospectus was developed for a "New Milwaukee Organization" to serve as a mechanism for putting together a new railroad corporation having the objective of ensuing continued, competitive rail service in

regions currently served by the bankrupt Milwaukee. Specifically, the Organization was assigned the following functions:

(1) Develop a specific organizational, financial, management and marketing plan for a shipper and employee owned railroad company which would provide railroad service either from Minneapolis west to Seattle, or over the entire present Milwaukee system.

(2) Intervene in the Milwaukee Road Bankruptcy proceedings to protect the interests of the Organization.

(3) Intervene in Milwaukee Reorganization proceedings before the Interstate Commerce Commission to protect the interests of the Organization;

(4) Negotiate with the Milwaukee Bankruptcy Trustee for acquisition of railroad assets;

(5) Interact with members of Congress and with federal agencies to develop legislation necessary for the new railroad company's operation, to obtain needed studies and technical assistance, to obtain loans and other necessary financial assistance for the new railroad, and to otherwise gain positive intervention on various Milwaukee-related proceedings;

(6) Interact with state and local officials to coordinate with state rail plans to insure compliance with applicable state laws and local ordinances, to investigate potential state sponsored financing, and to gain intervention on Milwaukee-related proceedings;

(7) Develop the corporate structure for the new railroad company, and make necessary filings before the Interstate Commerce Commission and the Securities and Exchange Commission;

(8) Establish an identity for the new railroad reflecting a more progressive modern and responsive image than that currently existing for the Milwaukee Road;

(9) Stimulate and coordinate various additional related studies by various university-based, public, and/or private research organizations, and to gain appropriate intervention in Milwaukee-related proceedings.

Funding for the expected six month life of the New Milwaukee Organization is anticipated to come from the Old West and Pacific Northwest Regional Commissions ($200,000 each), rail employee

organizations ($300,000), Milwaukee shippers ($300,000), and Federal technical assistance grants ($300,000). The various groups have already been asked to participate; to date, a portion of the $1.3 million in funds has been raised. Efforts are currently underway to appoint a Board of Directors and to hire an administrator and appropriate technical staff and consultants to undertake the required technical, legal, and organizational work.1/

At this point, Montana supports the New Milwaukee Organization in its efforts to create an employee and shipper owned railroad replacing the bankrupt Milwaukee in the northwest.

A somewhat different approach has simultaneously been taken by the State of South Dakota as a consequence of the embargo petition. Recognizing the severity of the economic impacts upon electric power consumers and agricultural interests in that state, the South Dakota Department of Transportation proposed a formal agreement in which the agency pledged $2.3 million to the Milwaukee for the purpose of funding the immediate rehabilitation of the Miles City to Jonatha Minnesota mainline trackage.2/

1/ The Board is proposed to consist of 15 members, of which 9 would be appointed by the Governors of the affected states, 3 chosen by Milwaukee employees, and 3 chosen by Milwaukee shippers.

2/ Most of the local traffic on the Milwaukee main line is a unit coal train originating at Gascoyne, ND, and destined to the Big Stone and Ortonville Power Plants located near the South Dakota - Minnesota state line. Local service is also provided to grain elevators located along this line. In addition, the Milwaukee presently handles "Columbia One" alternately with the Burlington Northern. This is a unit coal train originating in the southern Montana coal fields and destined for Wisconsin. Presumably, the Milwaukee will seek to retain this coal traffic, if the Jonathan Miles City line is retained. If the line was abandoned, South Dakota stands to lose 48 percent of its rail system, including it connections to the west. These connections may become of increas importance should the marketing of grain shift to the west coast.

While South Dakota is prepared to proceed with this project, it has sought to broaden the sponsorship of what is essentially a regional project by including the other states benefiting from retention of this segment of the Milwaukee mainline (i.e., Minnesota, North Dakota, and Montana). Specifically, South Dakota has proposed that each of the four states utilize a portion of each state's Title VIII entitlement to provide the federal share of the $2.3 million "immediate" rehabilitation project, with the shippers providing the required matching funds. South Dakota further proposed proportioning costs based on the expected increase in the cost of power times that state's share of the combined consumption base. Under this proposal, South Dakota, North Dakota, Minnesota, and Montana would each be assessed 27, 44, 20 and 9 percent of the federal portion of project costs, respectively.1/ Since then, several alternate methods for apportioning costs have been proposed, each having the effect of increasing Montana's assessment.2/ No decision has been reached on how costs would be shared for this project among the participating states, although an early decision is requisite so that necessary Title VIII funds can be obtained to permit accomplishment of the rehabilitation work in 1979.

The purpose of the $2.3 million immediate rehabilitation project is to counter the effects of an extended period of deferred maintenance. The project provides for the replacement of 70 thousand cross ties between Big Stone City, South Dakota, and Marmarth, North

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1/ Under this proposal, Montana's share should be approximately $125 thousand.

2/ Under the alternate proposal, Montana's share could range as high as $448 thousand.

Dakota, and the addition of 15,000 tons of ballast. This is the maximum effort which can be accomplished in the time available before winter. Without this project, a further reduction in speeds may be necessary which would jeopardize the one-day turnaround presently being provided by the Milwaukee for the unit coal train. South Dakota will administer this project on behalf of the other three states.

The $2.3 million project is only a temporary solution; full rehabilitation necessitates the expenditure of an additional $22.7 million over a three to four year period to replace 569 thousand cross ties and 3.2 miles of rail at Aberdeen, South Dakota, plus 300 miles of re-ballasting. The object is to upgrade the track so that 50 mph speeds can be maintained over the entire length of the line under normal conditions. Funding for this latter project will be sought under the low interest loan provisions of Section 505 of the 4R Act. The Milwaukee will apply for and be responsible for the repayment of these funds. South Dakota will form a Regional Rail Authority, as authorized under existing legislation, to co-sign as a guarantor for the Milwaukee on the funds borrowed for this long-term rehabilitation, thereby providing indemnification of the loan in case of default. In the event the Milwaukee does not survive, the Regional Rail Authority would structurally and financially assume ownership of the line and would then either operate the line directly or lease it to another carrier.

At this point, Montana has not elected to join with South Dakota in rehabilitating the track to continue rail service on the Milwaukee's mainline between Jonathan, Minnesota and Miles City.

Irrespective of the decisions reached by the other states, South Dakota is prepared to "go-it-alone" on this project, thus retaining Milwaukee service as far west as Miles City. Another somewhat remote possibility would be to accept the concept being utilized by South Dakota, extending the mainline to Butte or further west , instead of ending the project at Miles City. Such a concept would (1) provide a connection with the Union Pacific at Butte in addition to the connection with the Burlington Northern at Miles City, thus retaining some degree of intramodal competition on shipments to the west coast for traffic originating east of Miles City; (2) allow for the retention as a single entity of the Milwaukee branch line serving Moore, Lewistown, Denton, Geraldine, Highwood, Great Falls and Fairfield, a rather profitable grain line; (3) provide access to potential coal deposits in the Roundup area; and (4) provide continuing service to a number of shippers dependent upon continued rail service.1/

Under this concept, the objective is to provide local rail service, rather than to be a part of a reconstituted transcontinental route. This concept could be further extended to Schilling or a terminus in Idaho or Washington which would then allow for continued rail service to major traffic generators at Bonner, Missoula and Schilling.2/ An extended line could be operated by the Milwaukee, if agreed to by the Trustee and the U. S. District Court overseeing the

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1/ Including the White Sulphur Springs and Yellowstone Park Railway, which would be isolated were the Milwaukee mainline abandoned.

2/ Deer Lodge, Missoula and Schilling are also served by the Burlington Northern. A better solution would be to consolidate facilities and services, rather than retain duplicate trackage.

reorganization, or another carrier provided that arrangements can be made to purchase the required Milwaukee trackage.[1/]

All three alternatives to the reorganization plan being develop by the Trustee seek, in varying degrees, (1) some partial alternativ to anticipated, near total Burlington Northern domination of the rai freight business in the northwest, (2) retention of rail service at critical points not served by another carrier, and (3) the preservation of jobs. If either the New Milwaukee Organization or an "extended" South Dakota proposal fail to gain widespread public support or acceptance by the U. S. District Court overseeing the Milwaukee reorganization, then the near total loss of competitive rail service in Montana becomes inevitable. Each of the alternatives presented has a different degree of risk associated with it. Also a factor is timing -- (1) whether the New Milwaukee Organization receives the governmental support and financial commitment, within the next month or two, necessary to demonstrate the ability to "pull it off," (2) the desire of South Dakota to proceed ahead with rehabilitating the Milwaukee mainline between Jonathan and Miles City during the 1979 construction season, and (3), the mandate of the U. S. District Court upon the Trustee to proceed rapidly with reorganization, including the abandonment of those lines not included within the restructured system. There is also a strong possibility that many of the more profitable segments of the Milwaukee system may be sold to connecting carriers; whether the more viable sections are transferred depends upon the resulting price.[2/]

1/ A shortline operator would also be a possibility.

2/ Generally, these segments would only include the major traffic generating points and whatever trackage is necessary to connect the segment with acquiring carriers' existing rail lines.

While such negotiations have been in progress for some time, no agreements have yet been reached or announced. This could occur with the issuance of the Trustee's reorganization plan expected on or before August 6. ICC approval is required of such transfers, however.

What happens if the Burlington Northern becomes the dominant carrier in Montana? Is this necessarily bad? No, but it does have the effect of reducing the leverage that the state government and shippers have in rate and service matters. Shippers consequently must rely on intermodal competition to keep service and price within reason. It is important to recognize that competitive rail service only exists today within or between a relatively few areas in Montana. Some of the major Milwaukee shippers are also Burlington Northern shippers. In these cases, the choice of railroad (and the somewhat lower Milwaukee tariffs for some movements) will be lost, although rail access remains. In other cases, the Burlington Northern or Union Pacific may simply be the replacement carrier.

Is there any other possibility should the alternatives presented earlier fall by the wayside? One promising "substitute service" type concept, applicable particularly to the grain lines in central Montana, would be to construct a grain subterminal in the general Lewistown area allowing the use of unit grain trains. Grain shipments presently made by rail from grain public warehouses located along the Milwaukee (and other lines) would instead be trucked to the centralized facility where it would be loaded into 100-ton hoppers. Shipments would be made in 50-car units, rather than by single cars as at present. Such a subterminal could eventually

permit the retirement of many light density lines in central Montana. The chief virtue of the grain subterminal concept is that it introduces major economies of scale which would be reflected in better utilization of the car fleet (probably dedicated equipment) and more reliable service (use of unit trains) eliminating the local service and switching operations presently taking place (enroute). It is a concept which is not now in existence anywhere in Montana, although is quite common in the midwest. Its practicality rests on (1) being able to pass along significant economic benefits (transport cost savings) to the farmers, grain elevator operators, and railroads, (2) a willingness on the part of grain warehouses to combine together their shipping requirements into unit train quantities bound for a single destination, while retaining their independence and competitiveness in all other areas, and (3) the availability of capital funds to construct a strategically located grain subterminal and make necessary improvements to the highway system to sustain the "collector" trucking required in support of the terminal. This concept is the only long-term, technologically advanced solution possible today. It does require a throughput of at least 100 thousand tons per year, with five thousa ton shipments to single destinations.

Neither the Department of Agriculture nor the Department of Highways have had sufficient time to thoroughly investigate the grain subterminal concept -- to perform the microeconomic and transport system analyses necessary to establish whether the concept is economically viable for application in central Montana. Equally important are the institutional aspects -- the need to work closely

with farmers/farm organizations, grain public warehouse operators, trucking interests, local officials, and railroad personnel to solve the myriad of concerns, problems and complications arising from such drastic change. Thus, both agencies should proceed forward with this study to determine whether this concept would provide some of the benefits normally associated with competitive rail service, and thus represents a viable alternative which could be implemented in lieu of the continuation of conventional rail service.

It is within this framework of great uncertainty that the Montana Rail Plan has been developed.

III. CLASSIFICATION OF LINES

Federal regulations require states to:[1/]

"Identify the following classes of rail service within the State providing both a written description and illustration of each category of service on appropriate scale maps:

(i) Lines over which oversized loads (high and wide loads) or excessively heavy loads are normally routed due to dimension or weight restrictions on alternate routes;
(ii) Rail freight routes to military installations;
(iii) Rail lines in the State which are eligible for assistance under section 5(k) of the Act;
(iv) Lines of railroad in the State which are identified as potentially subject to abandonment as well as those which are anticipated to be the subject of an abandonment as well as those which are anticipated to be the subject of an abandonment or discontinuance application within 3 years following the date on which the system diagram map is submitted by a railroad pursuant to section 1a(5)(a) of the ICA and 49 CFR 1121.20(b)(1) and(2);[2/]
(v) Rail freight services in the State for which abandonment applications are pending before the Commission;
(vi) Projects for which a State plans to apply for rail service continuation assistance, including where practicable, projects not yet eligible during the ensuing year (all projects listed shall be from among those listed in paragraphs (c)(3)(iii, (iv), and (v) of this section); and
(vii) Rail projects for which a state provides or plans to provide assistance from sources other than the Section 5 Program, including the estimated cost of each such project."

A. Lines Having Dimension or Weight Restrictions

Figure 10 identifies lines over which oversized loads (often referred to as high and wide loads) or excessively heavy loads can be routed to avoid dimension and weight restrictions on alternate routes. Cars in unrestricted interchange service must (1) have a maximum width of 10 feet 8 inches provided that the truck centers

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1/ 49 CFR Part 266.15(c)(3).

2/ Section 1a(5)(a) of the ICA (Interstate Commerce Act) pertains to the submission and publication of system diagram maps by rail carriers. 49 CFR 1121.20 presents ICC rules and regulations pertaining to system diagram maps.

do not exceed 41 feet 3 inches, (2) not exceed 15 feet 1 inch in height, and (3) not have a loaded axle weight greater than 65,750 lbs.[1/] Cars in limited interchange range in height up to 17 feet. Thus, routes having a controlling horizontal clearance of 12 feet and a controlling vertical clearance of 18 feet or greater are generally suitable for high and wide loads. Similarly, routes having a rail load limit of 315,000 lbs. per car are generally suitable for excessively heavy loads.

The Burlington Northern Class A mainlines meet the above dimensional and excessive weight criteria, as do several other Burlington Northern lines. The Milwaukee mainline meets the above criteria only east of Harlowton. In addition, a number of the branchlines have weight restrictions considerably below the 263,000 lbs. allowed in unrestricted interchange. This information is summarized in Figure 10

B. Rail Freight Services to Military Installations

The Military Traffic Management Command is responsible for handling land transportation for the U. S. Department of Defense. Within this organization, the "Railroads for National Defense" (RND) project group was set up in 1975 to integrate national defense railroad needs with the programs of the FRA, the states, the AAR, and individual railroads. RND has investigated the flow of peacetime shipments through analysis of government bills of lading broken down by installation and state. Montana was not one of the more important states in terms of originating and terminating carloads. The carload data was then assigned to probable routings. Figure 11 illustrates

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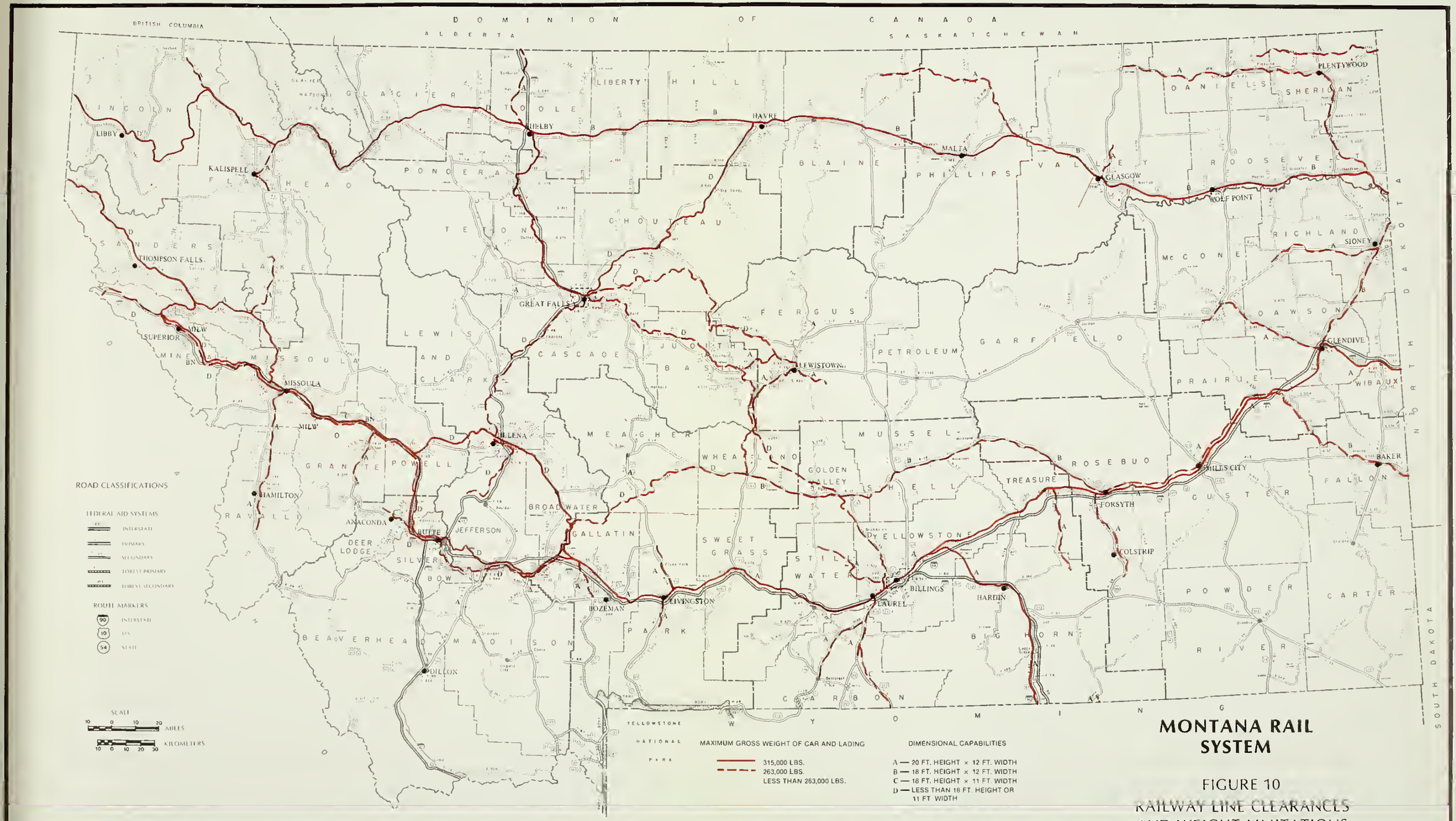
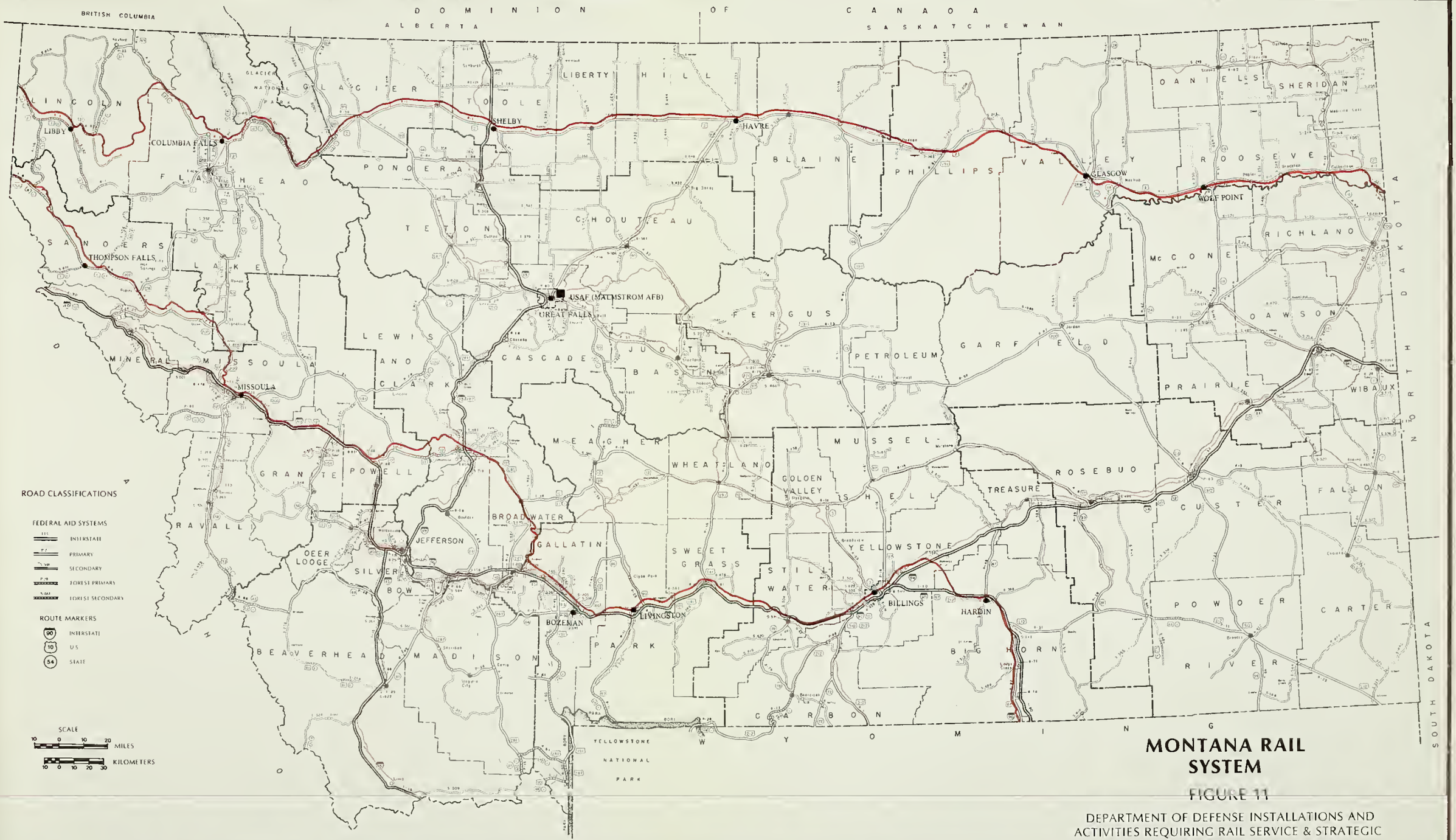
1/ Maximum car widths for cars having truck centers greater than 41 feet 3 inches must be less to compensate for end and center swingout.



MONTANA RAIL SYSTEM

FIGURE 10
RAILWAY LINE CLEARANCES
AND WEIGHT LIMITATIONS



MONTANA RAIL SYSTEM

FIGURE 11

DEPARTMENT OF DEFENSE INSTALLATIONS AND ACTIVITIES REQUIRING RAIL SERVICE & STRATEGIC RAIL CORRIDOR NETWORK (STRACNET)

lines serving military installations.

The data collected were then used by RND to identify "a network of rail corridors strategically important to the defense of the United States". Criteria used in identifying the "STRACNET" network included (1) present peacetime and anticipated mobilization movements, (2) clearances, (3) interconnectivity, (4) embarkation points, and (5) compatibility with FRA classification. The resulting STRACNET corridors total 30,000 miles nationwide. Corridors within Montana include the Burlington Northern Hi-line (northern) line, the portion of the southern east-west line west of Billings, and the line to Lincoln, Nebraska.

C. Rail Lines Eligible for Assistance

Railroads must obtain Interstate Commerce Commission approval to abandon light density lines.[1/] Since passage of the Railroad Revitalization and Regulatory Reform Act of 1976, the Commission has issued certificates of public convenience and necessity permitting the abandonment of the following rail lines in Montana:

Line [2/]	Termini	Length (miles)	Date of Abandonment
MILW MD 7th Sub	Bozeman-Menard	22.3	1975
BN YD	Billings-Shepard	14.3	1976

1/ Section 1a(1) of the Interstate Commerce Act, as amended by Section 802 of the Railroad Revitalization and Regulatory Reform Act of 1976, reads as follows: "No carrier by railroad subject to this part shall abandon all or any portion of any of its lines of railroad (hereinafter in this section referred to as 'abandonment') and no carrier shall discontinue the operations of all rail service over all or any portion of any such line (hereinafter referred to as 'discontinuance'), unless such abandonment or discontinuance is described in and covered by a certificate which is issued by the Commission and which declares that the present or future public convenience and necessity require or permit such abandonment or discontinuance. . . ."

2/ MD - Montana Division (BN and MILW), YD - Yellowstone Division (BN only)

Line	Termini	Length (miles)	Date of Abandonment
MILW MD 11th Sub	Heath-Grass Range	26.2	1976
BN MD 8th Sub	Draycut Jct.-Augusta	36.7	1977
MILW MD 6th Sub	Bonner-Clearwater	36.4	1978
MILW MD 7th Sub	Three Forks-Bozeman	38.4	1978
MILW MD 8th Sub	Bozeman Hot Springs-Gallatin Gateway	4.8	1978
UP Yellowstone Br	Ashton, ID-West Yellowstone	55.2[1/]	1979

Under the recently amended abandonment process, when the Commiss makes a finding that the public convenience and necessity permit the abandonment or discontinuance of service on a railroad line, it is required to publish the finding in the Federal Register. If within 30 days, the Commission finds that a responsible person (including a governmental entity) has offered financial assistance which would likely cover (1) the difference between the revenues attributable to the line and the avoidable cost of providing rail freight service plus a reasonable return on the value of the line, or (2) the acquisition cost of all or a portion of the line, then the Commission is required to postpone the issuance of an effective certificate authorizing abandonment or discontinuance for a reasonable period of time (not to exceed six months) to permit the carrier and the responsible person to reach an appropriate financial agreement covering subsidization or sale of the light density line. Upon notification of the execution of such an agreement, the Commission will then postpone the issuance of a final and effective certificate for the length of the agreement, including any extensions of modifications. The above does not change the basic abandonment process since the Commission must first decide whether to permit abandonment or not. It does allow for an accommodation to be worked out between the

1/ 9.5 miles in Montana

carrier and those individuals or firms dependent upon continued rail service, with financial assistance from the state.

No individual or governmental entity has sought to subsidize or acquire the lines listed above within the prescribed time period or anytime thereafter. Thus, final certificates have been issued by the Commission. In most cases, the railroad has removed the track and may have sold all or part of the right-of-way.1/ Thus, while the above listed lines are technically eligible for assistance, no post-abandonment efforts have been made to keep these lines in operation through an operating agreement with the owning railroad.2/

D. Rail Lines Potentially Subject to Abandonment

In addition to lines already abandoned, Figure 12 shows rail lines potentially subject to abandonment. These include lines which the carrier (1) anticipates filing an abandonment application within three years of the date of the latest system diagram map, and (2) has under study and which may be the subject of a future abandonment application. The light density lines potentially subject to abandonment (as of July, 1979) are listed on the following page.

1/ In many cases, the land reverts back to the previous ownership since the right-of-way was originally acquired through easement rather than outright acquisition.

2/ This assumes that the tracks are still in place and that the owning railroad is willing to provide subsidized service even though not required to do so by 49 CFR. Assistance is also dependent upon preparation and adoption of a State Rail Plan and subsequent approval by the Federal Railroad Administration.

Line[1]	Termini	Length (miles)
MILW DD 44th Sub[2]	South Dakota Line-Miles City	114.7
MILW MD 1st Sub.	Miles City-Harlowton	216.7
MILW MD 2nd Sub.	Harlowton-Three Forks	113.9
MILW MD 3rd Sub.	Three Forks-Deer Lodge	112.1
MILW MD 4th Sub.	Deer Lodge-Alberton	110.8
MILW MD 5th Sub.	Alberton-Idaho Line	77.5
MILW MD 10th Sub.	Harlowton-Lewistown Yard	61.3
MILW MD 11th Sub.	Lewistown Yard-Heath	9.2
MILW MD 13th Sub.	Lewistown Yard-Falls Yard	134.5
MILW MD 14th Sub.	Falls Yard-Fairfield	38.5
BN MD 5th Sub.	Moccasin-Lewistown	30.7
BN MD 7th Sub.	Hogeland-Saco	79.3
BN MD 1st Sub. Ind. Track	Glasgow-Glasgow AFB	18.8
BN YD 6th Sub.	Beach, ND-Carlyle	20.8[3]

E. Rail Lines for which Abandonment Applications are Pending

Figure 12 also shows rail lines for which abandonment application are pending before the Commission. As of July, 1979, the lines affected are as follows:

Line [4]	Termini	Length (miles)
MILW MD 14th Sub.	Fairfield-Agawam	31.1
MILW MD 12th Sub.	Winifred Jct.-Winifred	42.7
BN RMD 9th Sub.	Red Lodge-Silesia	34.5
MILW MD 2nd Sub.	Ringling-Dorsey	3.5
BN RMD 13th Sub.	Haugan-Mullan ID	29.3[5]

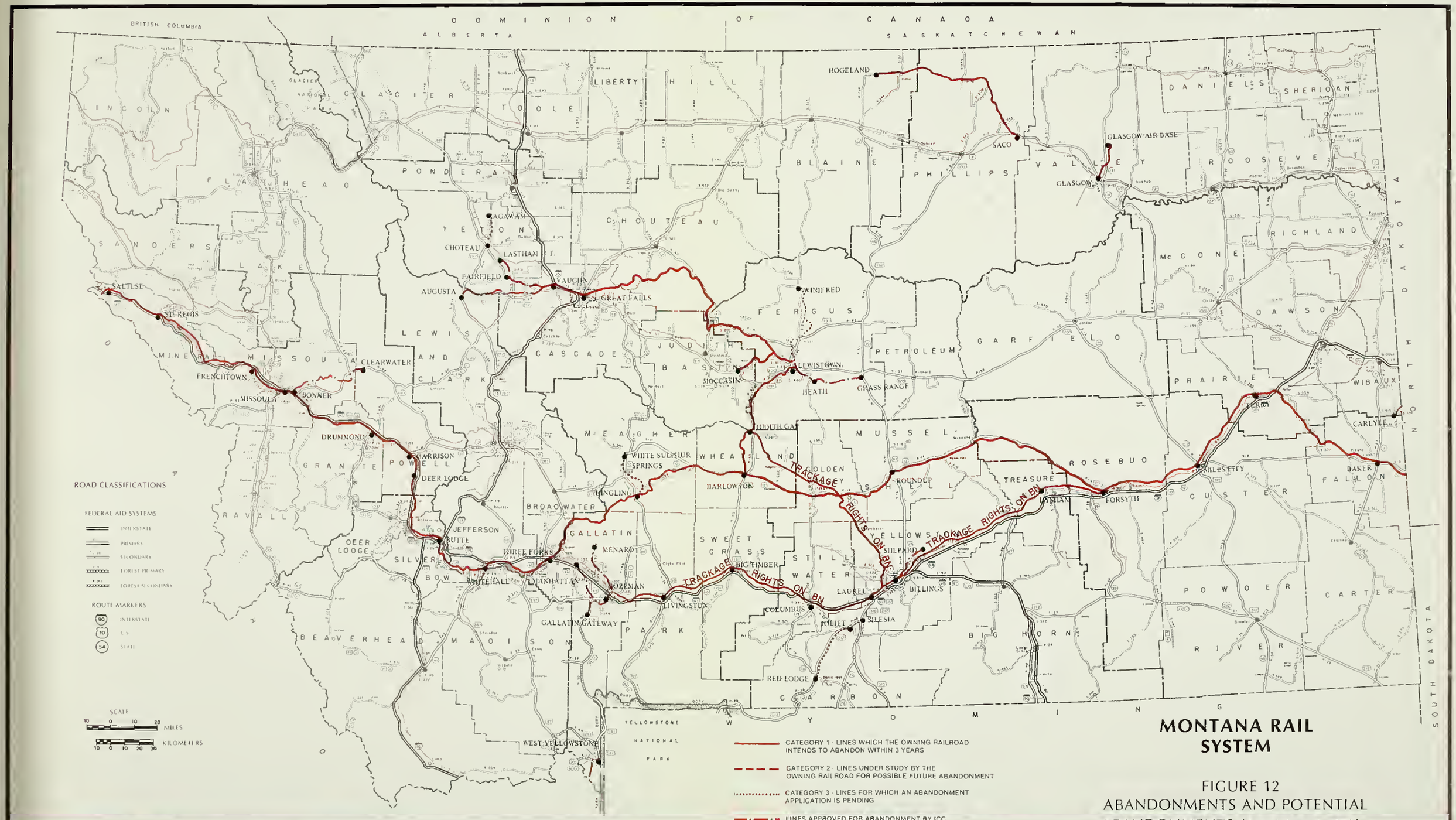
1/ DD-Dakota Division (MILW only), MD-Montana Division (BN and MILW) RMD-Rocky Mountain Division (BN only), YD-Yellowstone Division (B only).

2/ Recently, the Trustee has announced his intention to retain the Milwaukee as far west as Miles City, Montana. However, the curre ICC System Diagram Map shows all Milwaukee lines in Montana as either potentially subject to abandonment or lines for which aban ment applications are pending.

3/ Only 2.9 miles in Montana.

4/ MD-Montana Division (BN and MILW), RMD-Rocky Mountain Division (BN only)

5/ 18.9 miles in Montana.



MONTANA RAIL SYSTEM

FIGURE 12
ABANDONMENTS AND POTENTIAL ABANDONMENTS (As of August, 1979)

F. Projects for which the State Provides or Plans to Provide Assistance from Sources Other Than the Section 5 Program

In some states, the total amount of federal rail service continuation assistance available to the state is insufficient to meet perceived needs. In a few cases, states have or are using funds from non-federal sources to continue rail service on lines which otherwise would be abandoned.

At the present time, there are no projects for which the Montana Department of Highways either provides or plans to provide assistance from sources other than the Section 5 program.

IV. INDIVIDUAL LIGHT DENSITY LINE ASSESSMENTS

The purpose of this chapter is to introduce and explain the individual light density line assessments which have been completed by the MDH and appear in Technical Appendix A. The placement of the individual assessments in a separate appendix was done because of the large amount of data and text necessary in providing a complete appraisal of the line and in explaining the resulting assessment. Thus, Chapter IV serves as a guide to permit the reader to better appreciate and understand the conclusions which have been reached by the MDH on individual light density lines.

A. Lines for which Assessments were Prepared

Detailed individual light density line assessments were completed for a number of lines which are eligible for local rail service assistance. Criteria used in line selection included:

- FRA Class A and B Branchlines having gross tonnages of three million tons or less.
- ICC System Diagram Map categories 1, 2 and 3.[1/]

  Category 1 - lines for which the carrier anticipates filing an abandonment application within three years of the date of the System Diagram Map.

  Category 2 - lines which the carrier has under study which may be the subject of a future abandonment application on account of either anticipated operating losses or excessive rehabilitation costs as compared to potential revenues.

  Category 3 - lines for which an abandonment application has been filed with the ICC.

- Other lines of Class II railroads which may be the subject of a future abandonment application.

1/ 49 CFR Part 1121.20(b).

Table 7 shows the lines in Montana which meet the above criteria and for which detailed assessments have been prepared.

B. Format Used

The format used for individual branchline assessments meet FRA format and content requirements for individual light density line assessments.[1/] These requirements are quoted below:

> "Contain with respect to each line or project listed under subdivisions (3)(iii), (iv) and (v) of this paragraph: (i) freight traffic and characteristics of shippers on the line of railroad; (ii) revenues derived from rail freight services on each line an the cost of providing these services; (iii) a discussion of the condition of the rail plant, equipment and facilities; (iv) an economic and operational analysis of present and future freight service needs; (v) an analysis of the effects of abandonment wit respect to the transportation needs of the State; (vi) the relative economic, social, environmental, and energy costs and benefits involved in the use of alternative rail services or alt nate modes, including costs resulting from lost jobs, energy shortages, and the degradation of the environment; (vii) an evaluation of methods of achieving economies in the cost of rai service operations on lines on which service will be continued including consolidation, pooling, and joint use or operation of lines, facilities, and operating equipment; (viii) the competiti and other effects on or by profitable railroads; (ix) for lines projects which the State may consider for rail banking, a description of future economic potential such as development of fossil fuel reserves or agricultural production; (x) a statement of the State's projected future for the line or project upon the expiration of Federal assistance under Section 5 of the Act (including such considerations as profitability; State or shippe subsidy; State, shipper, or carrier acquisition; termination of rail service; and the substitution of other transportation); (xi) a detailed description of alternatives evaluated, including subsidy and discontinuance or abandonment of service and potenti for moving freight by alternate rail service or alternate modes, an explanation of the analysis of each alternative, including the criteria considered in selecting or rejecting the proposed line or project for assistance and identification of the relativ costs and benefits of each alternative; (xii) the conclusion of the State as to whether or not the line or project should be selected for Federal or State assistance; and (xiii) a discussio of how each line or project selected for assistance is related to the criteria established as part of the overall State rail planning process."

1/ 49 CFR Part 266.15(c)(4).

TABLE 7

LIGHT DENSITY LINES FOR WHICH DETAILED ASSESSMENTS HAVE BEEN COMPLETED

	Line[1]	Between (Termini)	ICC Category[2]	Length (mi.)
1.	MILW MD - 14th Sub.	Agawam-Great Falls	1, 3	69.6
2.	MILW MD - 13th Sub.	Great Falls-Lewistown	1	134.5
3.	MILW MD - 10th Sub.	Lewistown-Harlowton	1	61.0
4.	MILW MD - 12th Sub.	Lewistown-Winifred	3	42.7
5.	MILW MD - 11th Sub.	Lewistown- Heath	1	9.2
6.	BN MD -5th Sub.	Moccasin-Lewistown	1	30.7
7.	BN MD -7th Sub.	Hogeland-Saco	1	79.3
8.	BN RMD - 9th Sub.	Red Lodge-Silesia	3	34.5
9.	MILW MD -2nd Sub.	Ringling-Dorsey[3]	3	22.8
10.	BN MD - 1st Sub. Ind. Track	Glasgow-Glasgow AFB	1	18.8
11.	BN RMD - 13th Sub.[4]	Haugan-Mullan ID	3	29.5
		Mullan, ID-Wallace, ID[5]	3	9.5

1/ MD - Montana Division (BN and MILW), RMD - Rocky Mountain Division (BN only)

2/ 1-Subject to abandonment within three years; 2-under study for possible future abandonment; 3-abandonment application pending.

3/ 3.5 miles owned by the Milwaukee, the remainder by the White Sulphur Springs and Yellowstone Park Railroad. (WSPYPR leases portion owned by MILW, for which an abandonment app. has been filed)

4/ Detailed assessment originally prepared by RCAI for the Idaho Transportation Department

5/ Discontinue BN service only. Line to be transferred to the UP

The regulations further require that "State submissions under this section shall reasonably conform to the format of this section, and each item submitted in response to a requirement of this section shall reference such requirement by subsection, paragraph and sub-paragraph."[1/] While the prescribed format does occasionally creat situations where the "cart gets before the horse", it has been used as the basis for preparing the individual line assessments which appear later in Technical Appendix A. Each of the 13 component sections is now discussed in greater detail:

1. Freight Traffic and Characteristics of Shippers

Includes a description of the number and type of business of the rail-oriented firms (those using rail service in 1977) locate along the light density line. Wherever possible, the reasons underlying the decline in traffic are explained along with the long-term ramifications of the modal shifts underway.

Most assessments also contain a table identifying the traffi using the line in 1978.[2/] Column headings are defined below:

Commodity Type - Description of the product originated or terminated on the line along with an identification of whether the traffic was inbound or outbound. Standard Transportation Commodity Codes (STCC) have not been used in these assessments, although they provide the basis for commodity identification in railroad accounting systems.

Carloads - The number of freight cars (of all types) by commodity type.

Tons - Cumulative tonnage (net) by commodity type.

The traffic table was either developed from information supplied by the railroad (abandonment applications) or from shipper survey data. Also shown is the corresponding traffic from the shippers' survey or railroad records, where available. Occasionally, substantial differences were observed between the shippers' survey and railroad traffic reports. Often it is difficult to determine which estimate is more likely to be correct. Railroads have long had a problem in correctly assigning traffic to its actual origination and termination

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1/ 49 CFR Part 266.15(b).

2/ In several cases, 1976 and 1977 traffic volumes are also included as being more representative of typical traffic volumes than those reported in 1978.

stations. On the other hand, there is always the possibility of respondent error when providing traffic information to the State. In general, railroad supplied traffic information was used in preference to shipper survey data.

Other characteristics of the line itself and the rail-dependent shippers are summarized on Worksheet I (unpublished) information supplied separately to the MDH).

2. Revenue and Costs of Rail Service

The revenue and cost estimates were largely developed from railroad branchline account data either supplied directly by the railroads or through abandonment applications. In some cases, adjustments were necessary to expand the data to cover an entire year. The estimates giving attributable revenues and avoidable costs for continuing rail service assume the continuation of present traffic, rail service and operating conditions.[1/] It purposely does not include rehabilitation costs.

Row entries include the following (projected 1978):

Freight Originated and/ or Terminated On-Branch	- Self-explanatory.
Bridge Traffic	- Through traffic not originating or terminating on-branch.
Demurrage	- Charges assessed for longer-than-normal retention of cars for loading or unloading purposes.
Passenger	- Revenues from passenger service over branch.
Total Revenues	- Sum of preceding. Represents attributable revenues.
Total Off-Branch Costs	- Sum of terminal, car-mile, and ton-mile costs for single and interline traffic.
Maintenance of Way	- Railroad expenditures to maintain track and structures. Either obtained from railroad branchline account records or estimated on the basis of normalized maintenance expenditures, if the expenditures actually made were less than that deemed necessary to maintain the line.

1/ Definitions of attributable revenues and avoidable costs can be found in 49 CFR Parts 1121.41 and 1121.42.

Maintenance of Equipment	- Repairs and depreciation on locomotives and freight cars.
Traffic	- Any expenditure on traffic solicitations attributable to the branchline.
Transportation	- Train crew salaries and other transportation-related expenses.
Miscellaneous	- Self-explanatory. Also includes employee fringe benefits.
Taxes	- Property taxes (order-of-magnitude estimate).
Rent Income/Costs	- Receipts or expenditures from/for rentals.
Bridge Traffic Rerouting	- Net additional cost incurred from the rerouting of bridge traffic.
Total Avoidable Costs	- Sum of total off-branch and on-branch costs.
Valuation of Property[1/]	- Sum of (1) allowable working capital computed at 15 days on-branch cash avoidable costs, (2) current income tax benefits resulting from abandonment of line, and (3) the net liquidation benefits (for the highest and best non-rail use) of the line under study or proposed for abandonment.
Rate of Return[2/]	- The current cost of capital after adjustment for the effects of current Federal and State income taxes expressed as a percent.
Total Return on Value	- The product of the value or property times the rate of return.
Estimated Subsidy	- Total estimated revenues less total avoidable costs and total return on value indicate the general profitability of the line (the amount by which costs exceed revenues for a given year). Expressed both with and without return on value.

1/ 49 CFR Part 1121.43 (11/4/76).

2/ 49 CFR Part 1121.44 (11/4/76).

3. Condition of Plant, Equipment and Facilities

Physical inspections and rehabilitation cost estimates have been prepared for five of the ten branchlines in Montana. (No inspection or repair/replacement estimates have been prepared for equipment or facilities, since it is not unique to the branchlines.)

The physical inspections were made by Railway Technical Services, Inc. personnel for MDH. The procedure consisted of detailed quantitative inspections of track structure at ten-mile (or less) intervals and at both ends of the segment, supplemented by qualitative spot checks at five-mile intervals to verify the consistency of conditions at the previous sites. Quantitative data samples on turnouts and road crossings were taken at discretionary locations sufficient to obtain representative results. Descriptive notes were taken on conditions observed. Photographs (35 mm photos) were also taken of the track structure, turnouts, and crossings inspected.

The track structure sample itself consisted of traversing a distance of two hundred ties, noting all ties needing replacement. Track gauge and cross-level readings were taken at six points. Missing and loose bolts, ineffective or missing spikes and tie plates, and broken joint bars were counted. Rail weight and lengths were noted. Qualitative evaluations were made of rail wear, alignment, ballast, slope and ditch conditions, and vegetation. Similar data were recorded at turnouts. Crossing data also included length, width, material and condition of the crossing itself and gauge, shoulder, and ballast section conditions of the track structure at the crossing.

Information available on the five lines inspected includes the following:1/

Track Structure

Mile Post	Location of sample where data was taken.
Rail Weight	Given in pounds per yard.
Rail Wear	Graded as light, medium or heavy.
Average Length	Rail length in feet.
% Bad Ties	Self-explanatory.
Max, Distance Between Good Ties	Length in inches between two successive good ties.
M & L Bolts	Number of missing and loose joint bolts in sample.

1/ See "Consultant's Report" dated June, 1979, prepared by Railway Technology Services, Inc. for RCAI.

Track Structure (Cont'd)

Broken Joints	Number of broken joint bars in sample.
Ineffective Tie Plates	Number of missing or ineffective tie plates in sample.
Ineffective Rail Spikes	Number of missing or loose rail spikes in sample.
Gauge Variance	Measured from a standard gauge of 56 1/2 inches, with a minus (-) indicating tight gauge and a plus(+) wide gauge.
Cross Level	Deviation in inches from horizontal. Indicates surface alignment.
Ballast	Type of material and whether work is needed.
ROW Improvement	Whether slope or drainage improvements are required.
Vegetation	Degree of brush cutting or weed control required. Graded as none, light, medium and heavy.

Turnouts

Switch length	Length of moveable parts, in feet.
Switch Condition	Condition of points and connections. Graded as poor, fair or good.
Frog Number	Defines turnout geometry.
Frog Type	Types include: RBM - rail bound manganese; S.G. - self-guarded (manganese); S.R. - spring-rail; B.R. - bolted rigid.
Frog Condition	Condition of frog point and flangeway area. Graded as poor, fair or good.
Guard Rail Type	Types include bolted rail and cast steel.
Guard Rail Cond.	Condition graded as poor, fair or good.
Alignment Surface	Horizontal and vertical alignment of the running surface of rails. Graded as poor, fair or good.

Highway Grade Crossings

Length (of crossing)	Length measured in feet along center line of track.
Material (shoulder) (gauge)	Type of material used outside (shoulder) and between (gauge) rails. Classified as timber, asphalt paving, bituminous paving, and gravel.
Material Condition	General condition of shoulder, gauge, and between track materials graded as poor, fair or good.
Drainage Improvements	Whether any evidence of ponding was observed, thus indicating the need for drainage work.
Protection	Type of roadway warning device classified as none, signs, or flashing light signals.

The unit prices shown as part of the rehabilitation cost estimates are comprised of labor with payroll taxes and insurance, equipment ownership and operating costs, material costs and a percentage for supervision and general administrative overhead. The Brotherhood of Maintenance of Way Employees Union Wage Rates were used for rehabilitation estimates on all lines.

The general administrative and overhead additive for the railroad union is 78 percent applied to labor only. Equipment costs include depreciation, taxes, insurance, major repair allocation, running repair costs, fuel, oil, grease and expendable supplies. Material costs are current (1979) for the Northwestern area of the United States. The quantities of work to be performed on each line segment were determined by analyzing the field inspection sheets for each line inspected. In carrying out track rehabilitation, FRA-recommended rehabilitation specifications (or equivalent state specifications) were used as a basis for quantity estimates. These specifications mandate greater upgrading than that required by the track safety standards. This "overshooting" is deliberate and necessary in that the object is to keep the line in operation for a period of time without the danger of premature shutdown on account of failure to meet safety standards at a particular but unknown location on the line. Some additional ties were included in track with lighter than ninety pound rail, since FRA Standard of one hundred inches between sound ties is simply too great in light rail situations.

Rehabilitation costs are simply the product of the amount of work to be done times the unit price. The work categories used

in estimating rehabilitation costs are as follows:

Cross-Tie Replacement	Includes ties and respiking and replacing tie plates, where required.
Joint Tightening	Tighten bolts in joint bars
Replace Joint Bars	Includes joint bars and bolts
Replace Tie Plates	Includes respiking and replacing tie plates
Turnout Rehabilitation	Includes replacing or repairing frogs, switch points, and switch ties, as required
Ballast Dump	Adding additional ballast both inside and outside of the crib
Spot Tamping	Includes surfacing and aligning, where required
Surfacing and Lining	Full-scale tamping, surfacing, and aligning
Spraying	Weed and brush control
Embankment Work	Stabilizing fill sections by building up embankments where required

Salvage values were established based on current market condition for track material stockpiled ready for resale. These unit prices are summarized in the following table. OTM (other track material) includes tie plates, spikes, joint bars and bolts, nuts and washers. Weight of OTM averages 25 percent of the rail weight.

TRACK MATERIAL SALVAGE VALUE

RAIL

Weight	Scrap	Industrial Grade	No. 1 Relay
65 lb	$ 95/ton	$ 95/ton	$ 95/ton
70 lb	95/ton	95/ton	95/ton
75 lb	95/ton	95/ton	95/ton
85 lb	95/ton	95/ton	95/ton
90 lb	95/ton	200/ton	250/ton
100 lb	95/ton	200/ton	250/ton
112 lb	95/ton	200/ton	275/ton

TURNOUTS

65 lb	$366/ton	$366	$366
70 lb	428	428	428
75 lb	457	457	457
85 lb	486	486	486
90 lb	546	2000	2900
100 lb	612	2100	3100
112 lb	679	3000	5000

OTHER TRACK MATERIALS

65-85 lb	$ 95/ton
90-112 lb	$ 275/ton

TIES Average $2.00 each

The salvage values for each line were established by extending the quantity of each type of material by the appropriate unit price for the condition of the material. Condition of material was determined from the branchline inspections. The average cost to remove track and stockpile material using conventional methods is $2.31 per foot or $12,200.00 per mile.

4. Future Freight Service Needs

The regulations call for an economic and operational analysis of present and future freight service needs. The information given in Sections 1 and 2 provides a complete statement of present needs. Future needs were developed from (a) comments made by shippers to interview personnel during the conduct of the shippers' survey, (b) a careful review of comparative truck and rail rates or tariffs, (c) an assessment of modal shares and recent shifts, and (d) consideration of whether intramodal truck competition by itself was sufficient to insure reasonable rates for those presently utilizing rail services. Whether elimination of intermodal competition through rail service termination is truly in Montana's long-term interest is a question which must be carefully considered by government and shippers/receivers alike. In the face of changing modal economics and energy dependency, there is no guarantee that local interests will be best served over the long term by total dependence upon motor carrier transport.

5. Effects of Abandonment on State Transportation Needs

The regulations call for an analysis of the effects of abandonment with respect to the transportation needs of the State. This has been done by equating originations/terminations on the branchline with those in the remainder of the State. In most cases, the resulting percentage is well under one percent. For these lines, MDH concludes the impact of abandonment on the transportation needs of the State will be small.

Initial economic, environmental, energy, and transportation impacts are summarized on Worksheet II (unpublished information supplied separately to the MDH). Usually, the economic impacts far outweigh the other impacts in magnitude and effect.

6. Impacts of Substituting Alternate Rail or Other Mode

The regulations require determining the relative economic, social, environmental and energy costs and benefits involved in the use of alternate rail services or alternate modes, including costs resulting from lost jobs, energy shortages, and the degradation of the environment.

Further investigation of alternate rail possibilities focuses on:

The feasibility of rail service over portions of the line. The objective is to save carloads wherever possible while eliminating unproductive trackage.

The impact of alternate rail service on railroad operations, including the need to change the base of operations or to secure trackage rights over another railroad.

The possibility of having another railroad provide service, perhaps as part of a larger market swap.

Whether shortline railroad operation might be warranted.

Similarly, the possibilities of using substitute services (alternate modes) are also examined, including:

How businesses would tend to ship or receive commodities were rail service terminated (based on shipper survey responses indicating whether they would ship all-the-way by truck or use a nearby team track).

Again using the shipper survey data, to identify situations involving large tonnages of similar commodities potentially requiring special transfer facilities (which presently are not available, but if provided, would significantly reduce transshipment costs). If such situations could be identified, order-of-magnitude cost estimates would then be prepared. These capital estimates would be compared against the potential transport cost savings to see whether investment was warranted in alternate mode capital facilities.

Nearby team track facilities were assessed for their proximity, convenience (easy access via a truck route), condition, and presence of transshipment facilities, such as a loading dock.

Since each branchline is unique, the assessments are likewise variable in format and content.

7. Methods of Achieving Economies in Line Operations

Basic information presented includes the base of operations and the number of times the line is operated on a scheduled basis in a given year. Component assessments include:

An initial assessment as to the practicality of reducing the frequency of operations as a means of reducing costs.

The possibilities for consolidation, pooling, or joint use on the branchline.

8. Effects on or by Profitable Carriers

Identification of any affect on another rail carrier from the abandonment or continued operation of the line.

9. Potential for Rail Banking

Whether the line should be retained intact for long-term fossil fuel or agricultural production purposes, even though service may be discontinued for an indefinite period.

10. Future of Line in Relation to the Federal Assistance Program

The regulations call for a statement of the State's projected future for the line vis-a-vis Federal assistance under the Section 803 program (RRRRA). Each assessment, therefore, contains a statement indicating:

Anticipated profitability of the line.

Effect of rehabilitation on profitability.

Present status of the line -
Whether the carrier has made a decision to seek the abandonment of the line or not.

If so, whether an abandonment application has been filed and its current status (including whether an initial decision has been issued by the ICC).

Present eligibility of the line for financial assistance, MDH's and the type of assistance that may be sought, if known. (Under recent revisions to the Section 803 program, federal assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used in subsidizing operations or for projects involving acquisition, rehabilitation, new construction, or substitute service).

11. Description of Alternatives Evaluated: Results

Identification of the specific (a) ownership and/or configuration options, (b) investment alternatives (i.e., degree of rehabilitation or other types of capital investment), and (c) traffic scenarios evaluated. The results of this evaluation are presented on Worksheet VI in terms of each alternative's present value of costs. Each row represents a different alternative. Row entries include the following:

Alternative	The specific ownership, investment and traffic options or scenarios comprising that alternative.
First Quarter	Subsidy cost (or profit) of continuing rail operations over the line during the first three-month period before any rehabilitation can be accomplished. (Figures in parentheses indicate a profit.)
Final Quarter	Subsidy cost (or profit) of continuing rail operations for a quarter ending four years later. Includes cost reductions brought about by rehabilitation. (Figures in parentheses indicate a profit.) Final quarter cost computed both with and without rehabilitation costs.
Total	Subsidy cost (or profit) of rail operations over a full four-year period. Four-year cost computed both with and without rehabilitation costs. (Figures in parentheses indicate a profit.)
Ratio	The ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. Analogous to a benefit-cost ratio. A value substantially greater than 1.00 indicates that a social need does exist and economic benefits can be achieved by retaining rail service. Not applicable if the line is profitable to the owning carrier.

The figures shown on Worksheet VI are derived from similar data contained on Worksheets III and V (unpublished data supplied separately to the MDH). Each present value cost (for initial quarter, final quarter, four-year total, and equivalent uniform quarterly cost) represents the cost of continuing service plus the cost of discontinuing service on any remaining portion of the line not operated.

Worksheet VII presents a distributed analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service (Worksheet III).

12. Overall Branchline Assessment

The conclusion reached by the MDH regarding the retention of rail service on the line. Represents the key portion of each branchline assessment. Since each line is unique, the assessments are variable in format and content.

13. Relationship of Decision to Evaluation Criteria

A brief discussion explaining how the conclusions reached in Section 12 relate to the basic criteria stated in the revised Montana Planning Work Statement, dated June, 1979. These criteria are given below:

Does the line have potential economic viability?

The magnitude of the economic impacts of abandonment.

Community impact resulting from abandonment.

Effect of abandonment on energy use and other environmental factors.

Whether the light density line is essential to the state or regional rail network.

The availability of alternate modes or substitute shipping arrangements.

V. PRIORITIZATION OF LIGHT DENSITY LINES

Federal regulations require states to:[1]

> "Group projects for which the State may seek assistance (continuation payments, acquisition, rehabilitation, rail banking, rail service substitution) in order of compliance with the State's criteria and goals for assistance as determined under paragraph (c) (4) of this section. This shall be set forth as a summary table which clearly identifies the location of the project and describes the type (subsidy, rehabilitation to Class "X", etc.), estimated amount, and expected timing and duration of assistance to be sought."

These regulations essentially mandate a "program of projects" which is premature until a state rail plan has been prepared and adopted.[2]

Prioritization of lines and the selection of projects start with the individual light density line assessments given in Technical Appendix A. Table 8 presents the estimated costs of continuing and discontinuing rail service over each line. This table also presents the ratios of the cost of discontinuing rail service divided by the cost of continuing such service for each line where such computations are possible. These ratios are analogous to a benefit-cost ratio.

Table 9 presents the prioritized results, with highest priority being assigned to Lines 1, 2 and 3 (Group A). All three are Milwaukee lines, although this could change were the Burlington Northern to

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1/ 49 CFR Part 266.15 (c) (5).

2/ The amount of Section 803 funds to be made available to Montana in future years is unknown. Programming the use of these funds is especially challenging in the face of the uncertainties involved in allocating appropriated funds amount the states. Hence, a "realistic" program of projects cannot be developed at this time.

TABLE 8

COSTS OF CONTINUING AND DISCONTINUING RAIL SERVICE

Line/Alternative	Present Value of Costs Over a 4-Yr Period ($000)[1/] Discontinue Rail Service[2/]	Continue Rail Service[3/]	Ratio: Cost of Disc. Service ÷ Cost of Cont. Service[4/]
1. Great Falls to Agawam			
A. MILW Oper, Great Falls - Fairfield	949	(629)	n.a.
B. MILW Oper, Great Falls - Agawam	1,002	(522)	n.a.
C. BN Oper, Eastham Jct - Fairfield	945	(1,428)	n.a.
2/3. Great Falls to Lewistown to Harlowton			
A. MILW Oper, Harlowton - Great Falls	3,974	(7,835)[5/]	n.a.
B. MILW Oper, Harlowton - Lewistown MILW Oper, Lewistown - Highwood BN Oper in Great Falls	3,500	(1,546)	n.a.
C. MILW Oper, Harlowton - Lewistown MILW Oper, Lewistown - Geraldine BN Oper, Great Falls - Highwood	3,512	(3,797)	n.a.

1/ Figures shown are rounded to nearest thousand dollars. To convert to an annual cost, divide number shown by 3.46. Data source: Worksheet VI - Evaluation of Alternative Implementation Options (see Individual Branchline Assessments, Technical Appendix A).

2/ The same track segments were utilized in computing the cost of continuing and discontinuing rail service. In situations where the alternative shown proposes continued rail service over only a portion of the line (Lines 1 and 2/3), an additional cost equal to the difference between abandonment of the full line and the amount shown is also incurred.

3/ Unless otherwise noted, costs shown include amortizing rehabilitation to FRA Track 2 standards. Parenthesis indicates revenues exceed costs; hence the alternative is profitable.

4/ Analogous to a benefit-cost ratio. The notation n.a. (i.e., not applicable) indicates either the line earns a profit (thus, government expenditures may not be required) or different traffic figures have been used which differ from that used originally to calculate the cost of discontinuing service.

5/ High profitability stems from inclusion of Great Falls traffic. (Such traffic not included in other Line 2/3 alternatives.)

TABLE 8

COSTS OF CONTINUING AND DISCONTINUING RAIL SERVICE
(Continued)

2/3. Great Falls to Lewistown to Harlowton - (continued)			
D. MILW Oper, Harlowton - Lewistown MILW Oper, Lewistown - Denton BN Oper, Great Falls - Sq Butte	3,576	(3,835)	n.a.
E. MILW Oper, Harlowton - Lewistown BN Oper, Great Falls - Denton	3,458	(3,918)	n.a.
F. BN Oper, Great Falls - Highwood via			
(1) Moccasin - Lewistown		(641)	n.a.
(2) New Connection - Lewistown	3,057	(1,975)	n.a.
(3) Judith Gap - Lewistown		(1,849)	n.a.
G. BN Oper, Great Falls - Highwood BN Oper, Great Falls - Geraldine via			
(1) Mocassin - Lewistown		(2,446)	n.a.
(2) New Connection - Lewistown	3,069	(3,779)	n.a.
(3) Judith Gap - Lewistown		(3,653)	n.a.
H. BN Oper, Great Falls - Sq Butte BN Oper, Great Falls - Denton via			
(1) Moccasin - Lewistown		(2,601)	n.a.
(2) New Connection - Lewistown	3,133	(3,934)	n.a.
(3) Judith Gap - Lewistown		(3,808)	n.a.
I. BN Oper, Great Falls - Denton BN Oper, Great Falls - Lewistown via			
(1) Moccasin - Lewistown		(2,441)	n.a.
(2) New Connection - Lewistown	3,015	(3,775)	n.a.
(3) Judith Gap - Lewistown		(3,649)	n.a.
4. Lewistown to Winifred	152	503[1/]	0.3
5. Lewistown to Heath			
A. MILW Oper	12	15[1/]	0.8
B. BN Oper		12[1/]	1.0
6. Moccasin to Lewistown			
A. BN Oper	34	850	0.1
B. BN Oper (with MILW traffic)		(272)	n.a.
7. Hogeland to Saco	339	1,005[2/]	0.3

1/ Rehabilitation to Track Class 1 standards.

2/ Rehabilitation costs not included.

TABLE 8

COSTS OF CONTINUING AND DISCONTINUING RAIL SERVICE
(Continued)

8. Red Lodge to Silesia			
A. BN Oper (present traffic)	4	674[1/]	0
B. BN Oper (+ 600 carloads coal)		1,100	n.a.
C. BN Oper (+ 3000 carloads coal)		80	n.a.
D. BN Oper (+ 15000 carloads coal)		(9,090)[2/]	n.a.
9. Ringling to White Sulphur Springs			
A. WSS & YP Oper (present traffic)	325	99[1/]	3.3
B. WSS & YP Oper (extended system)		504[1/]	0.6
10. Glasgow to Glasgow AFB			
A. BN Oper (present traffic)		492[3/]	0
B. BN Oper (+ 100 carloads)	0	331[3/]	n.a.
C. BN Oper (+ 250 carloads)		90[3/]	n.a.
D. BN Oper (+ 500 carloads)		(384)[3/]	n.a.

1/ Rehabilitation to Track Class 1 standards.

2/ Track upgraded to Track Class 3 standards.

3/ Rehabilitation costs not included.

TABLE 9

PRIORITIZATION OF LINES

Group A - Profitable Lines

Lines (or segments of lines) for which the calculations indicate attributable revenues are greater than avoidable costs. In such situations, no economic basis exists for line abandonment even though the owning railroads may have identified such lines on their ICC system diagrams. The net profit may or may not be great enough to cover rehabilitation needs; in the latter case, federal and/or state funds may be required to meet rehabilitation needs.

Line 2 - Great Falls to Lewistown
Line 3 - Lewistown to Harlowton (Judith Gap - Lewistown segment)
Line 1 - Great Falls to Agawam (Great Falls - Fairfield or Eastham Jct. - Fairfield segments)

Group B - Marginally Profitable Lines

Lines (or segments of lines) for which the calculations indicate could earn a small profit with rehabilitation, although the return is not sufficient to cover anticipated rehabilitation needs. Provided that the MDH cost estimates are reasonably close to the actual costs now being captured in railroad branchline accounting systems, no economic basis exists for line abandonment. The main need is for capital funding to improve the track structure sufficiently to permit safe, efficient long-term operation.

Line 4 - Lewistown to Heath

Group C - Lines Having Strong Socio-Economic Justification

Lines (or segments of lines) which are unprofitable under any reasonable assumptions concerning traffic growth and rehabilitation. However, the costs of discontinuing rail service on these lines (over a four-year period) are greater than the costs of continuing service, thus providing a socio-economic basis for government/shipper subsidization. Retention of these lines depends upon strong local interest and shipper commitments to increase usage and financially support continued rail service.

Line 9 - Ringling to White Sulphur Springs (present system)

TABLE 9

PRIORITIZATION OF LINES
(Continued)

Group D - Lines Not Having Strong Socio-Economic Justification

Lines (or segments of lines) which are unprofitable under any reasonable assumptions concerning traffic growth and regabilitation, and which the costs of discontinuing rail service (over a four-year period) are less than the costs of continuing service. Retention of these lines using government financial resources is not advisable. Instead, consideration should be given to substitute service projects, such as highway resurfacing and bridge replacement, to handle the increased loadings.

Line 4 - Lewistown to Winifred

Line 6 - Moccasin to Lewistown (unless retained in lieu of Line 3

Line 7 - Hogeland to Saco

Group I - Lines Needed for Economic Development Purposes

Lines (or segments of lines) which presently are unprofitable, but may have sufficient traffic potential from on-going or expected economic development to become profitable within a short period.

Line 8 - Red Lodge to Silesia

Line 10- Glasgow to Glasgow AFB

acquire all or portions of these lines.[1] No economic basis exists for abandonment, although institutionally this is a very real possibility given the Milwaukee bankruptcy.

Presently, Montana's allotment of Section 803 funds is minimal, due to the relatively limited amount of abandonment taking place in the state since the passage of the 4R Act in February, 1976. Consequently, the amount of rehabilitation that can be undertaken at the present time is very limited. A further complication is the state requirement that shippers or local governments provide the local share. Thus, no projects are presently contemplated for lines listed in Groups B through E. This might ultimately change for Lines 4, 8, and 10, but for now the lack of funds and any immediate pressing need obviates the possibility of rehabilitation projects on these lines in the near future.[2]

1/ While it may appear that the Montana Rail Plan is geared primarily towards rendering Section 803 financial assistance to selected Milwaukee lines, this action is primarily a consequence of the results of the detailed assessments rather than from a desire to retain the Milwaukee in Montana as a competitor to the Burlington Northern.

2/ The ICC is expected to rule shortly on whether public convenience and necessity permit the abandonment of Line 8 between Red Lodge and Silesia. If it rules in favor of the BN, there is a strong possibility that the decision will be appealed by the Beartooth Coal Company, with abandonment being postponed until the appeal can be settled. If the line is retained, MDH anticipates that either the BN or the Beartooth Coal Company may seek Section 803 funding for the rehabilitation of this line. MDH will consider such a request in terms of the funds available and statewide needs at that point in time. A major factor in such a decision will be the contractural commitments for coal then in effect and an assessment of the growth in production and sales likely over the next few years. In any event, economic development type projects (Group B) have a lower priority than Group A projects.

Although this plan has been developed during a period when several alternatives or extensions to the Trustee's expected reorganization plan are being promoted by their sponsors, events over the next few months will probably resolve much of the uncertainty which now exists. Either one of these alternatives is going to gain substantial government, shipper, and labor support, or they are just going to be quietly forgotten as the Trustee presses forward with reorganization of the Milwaukee.1/

There is no question that the preparation of this state rail plan would have been far easier had the Milwaukee's future been settled, one way or another. While the merits of the individual Milwaukee lines can be readily assessed on the basis of whether the Milwaukee stays or goes, the selection of projects cannot. Allocation of Montana's Section 803 allotment vis-a-vis Milwaukee lines is a function of (1) who is the ultimate owner and/or operator, including financial capability, (2) how much of the present system is to be retained, (3) anticipated short-term needs for rehabilitation funding -- especially for "emergency" type projects or "spot" improvements to prevent or minimize service interruptions pending determination of appropriate long-term solutions, and (4) the results obtained from the proposed grain subterminal feasibility study. Given the present situation, one list of projects and their assigned priorities is impossible. Consequently, five different possibilities are shown

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1/ Montana can possibly influence this decisionmaking, but in the end the ultimate responsibility rests with the U. S. District Court overseeing the reorganization of the Milwaukee and the Interstate Commerce Commission.

in Table 10.[1] These are not alternatives in the true sense, as the selection of the particular course of action may be largely beyond state control.

Should the amount of Section 803 funds available to Montana increase substantially in future years, then it will become possible to undertake other projects in addition to the light density line rehabilitation outlined in Table 10. In particular, it would then become feasible to utilize Section 803 funds to improve highway segments receiving increased truck movements caused by rail line abandonments. Typical projects would include pavement overlays and bridge replacement (to eliminate load restrictions).[2]

1/ In addition to the Trustee's expected reorganization plan, the projects resulting from each of the alternatives or extensions to the Trustee's plan are also shown.

2/ A good example of a potential project would be the resurfacing of Secondary Route 236 between Hilger and Winifred in Fergus County. See the individual line assessment for line 4.

TABLE 10

ANTICIPATED SECTION 803 PROJECTS UNDER
THE VARIOUS REORGANIZATION PLANS OR EXTENSIONS THEREOF

A. Trustee Reorganization Plan - Connecting Carriers Acquire Profitable Segments

FY 1979 Projects. Funding of "emergency" type projects on the Milwaukee's 10th, 11th, 13th, and 14th Subdivisions to prevent any disruption in service between Harlowton (initially) or Judith Gap (if and when Milwaukee service ceases) and Fairfield. Objective is to provide minimal rehabilitation as required to obviate the likelihood of further embargoes stemming from poor track conditions until such time as the results from the grain subterminal study are known and an appropriate long-term decision can be reached. Shippers and/or local governments would be required to provide the local share. Rehabilitation would be to FRA Track Class 1 standards.

FY 1980 and Beyond.[1/] Projects depend upon resulting acquisition by connecting carriers of portions of the Milwaukee's 10th, 11th, 13th, and 14th Subdivisions.[2/] If purchased outright, no use of Section 803 funds is presently contemplated (profits should be sufficient to amortize rehabilitation costs). If leased from the Milwaukee, Section 803 funds will be made available if it will lead to a railroad agreement to purchase the line once rehabilitated, with the connecting carrier providing the local share. Otherwise, Section 803 funds would be utilized only if a long-term service agreement can be negotiated between the Milwaukee (as leasee), the connecting carrier (as the operator) and the shippers, with the shippers providing the local share. Rehabilitation would be to FRA Track Class 2 standards for those sections having a high probability of long-term retention.

1/ Projects on the Milwaukee's 10th and 13th Subdivisions also depend upon the results obtained from the grain subterminal feasibility study. If a finding is reached that the concept is economically and institutionally feasible, then there will be little need for rehabilitation projects on lines (or sections) which will be phased out once the subterminal is in operation.

2/ Inclusion of Line 4, Lewistown to Heath , is only for emergency-type repairs sufficient to keep the line in operation until longer term decisions can be made. Under the New Milwaukee Organization concept, the retention of this line becomes more important for revenue generation purposes. There is little doubt that with improved service and equipment availability that the revenue potential of this line could be substantially improved. Much depends upon the attitude and participation of the major shipper on this line.

B. New Milwaukee Organization - Retention of Existing Milwaukee Lines in Montana

FY 1979 Projects.[1/] Funding of "spot" improvement projects on the Milwaukee's 10th, 11th, 13th, and 14th Subdivisions to correct drainage or slide problems and rehabilitate track in the sections where most needed between Harlowton and Fairfield. Objective is to begin the complete rehabilitation of the line to FRA Track Class 2 standards, with the entire project expected to take several years on account of the funds required. Shippers and/or local governments would be required to provide the local share.

FY 1980 and Beyond. Continuation and completion of the rehabilitation of the Milwaukee's 10th, 11th, 13th and 14th Subdivisions between Harlowton and Fairfield to FRA Track Class 2 conditions.

C. South Dakota's Proposed Extension of the Milwaukee Mainline to Miles City

FY 1979 Projects. Participation with North and South Dakota and Minnesota in the $2.3 million immediate rehabilitation of the Milwaukee mainline between Jonathan, MN and Miles City. Remaining funds would be used for "emergency" type projects on the Milwaukee's 10th, 11th, 13th and 14th Subdivisions, as described under paragraph A above.

FY 1980 and Beyond. Identical to paragraph A above.

D. Milwaukee Mainline Extended Further West to a Connection with the Union Pacific Near Butte.

FY 1979 Projects.[2/] Participation with North and South Dakota and Minnesota in the $2.3 million immediate rehabilitation of

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1/ MDH anticipates that mainline traffic volumes will be in excess of the five million gross tons per mile per year limit for participation in the Section 803 program. Thus, the use of such funds would be restricted to the Milwaukee's grain lines in central Montana.

2/ MDH anticipates that traffic volumes on the Milwaukee mainline section between Miles City and Butte will be below the five million gross tons per mile per year limit, since the main function of the line would change from transcontinental to local service. Thus, Section 803 funds could be utilized in rehabilitating this line. Since such funds are limited, Section 505 low interest loans will be sought to complete the rehabilitation within two or three years to FRA Track Class 3 standards.

the Milwaukee mainline, as described previously. Remaining funds would be applied to "spot" projects to rehabilitate track in the sections where most needed between Miles City and Butte. Any remaining funds would be used for "emergency" type projects on the Milwaukee's 10th, 11th, 13th, and 14th Subdivisions, as described under paragraph A above.

FY 1980 and Beyond. Continuation and completion of the rehabilitation of the present Milwaukee mainline between Miles City and Butte, using Section 505 loans and funds from other sources. Continuation and completion of the rehabilitation of the Milwaukee's 10th, 11th, 13th and 14th Subdivisions between Harlowton and Fairfield to FRA Track Class 2 standards.

E. Substitute Service - Grain Subterminal in the Lewistown Area

FY 1979 Projects. Funding of "emergency" type projects on the Milwaukee's 10th, 11th, 13th, and 14th Subdivisions as described previously in paragraph A.

FY 1980 and Beyond.[1/] Planning, design, construction, and start-up funding of a grain subterminal ultimately replacing local rail service on the Milwaukee's 10th and 13th Subdivisions and portions of the Burlington Northern's Montana Division - 5th Subdivision line. Other federal and state funding will be sought in addition to the use of Section 803 funds.

1/ Assumes that the grain subterminal concept is found to be economically and institutionally feasible.

VI. PUBLIC PARTICIPATION

This section of the State Rail Plan describes the participation in the planning process by local and regional government bodies, the railroads, railroad labor, rail service users and the general public. It also outlines the additional procedures that will be followed in continuing that participation through the selection and adoption of the plan and particular projects.

Federal regulations require states to:[1/]

> "Describe the participation in the planning process by local and regional governmental bodies, the railroads, railroad labor, rail service users, and the public generally. In the project selection state, public participation should be specifically sought regarding each project described and analyzed in accordance with Paragraphs (c)(4) of this section and regarding the determination of which of these projects will be implemented and the grouping of such projects under Paragraph (c)(5) of this section. As one element of this participation, the State shall afford an opportunity for a public hearing. Public notice shall be given (in accordance with applicable State law and practice concerning comparable matters) that a draft of the Plan is available for public inspection at a reasonable time in advance of the hearing."

A. Governmental and Public Participation

The Montana Rail Plan has been developed in coordination with other state agencies as well as private and public groups with an interest in rail transportation. The Montana Department of Agriculture, the Department of Community Affairs, the Public Service Commission, and the Governor's Office all participated (albeit in varying degrees) in developing state rail policy and in preparing this document. The principal mechanisms utilized were formal and informal meetings and telephone conversations. The relatively

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1/ 49 CFR Part 266.15(c)(6).

limited amount of time available to the MDH (ten weeks) simply did not permit the use of more formalized methods for coordination and participation. Meetings have also been held with railroad management and railroad labor, both prior to and during the preparation of this plan.

B. Local Participation

Two mechanisms have been used to involve local governments and shippers in the rail study. Shippers on the ten light density lines which the owning railroads have classified as being in ICC System Diagram Category 1, 2 or 3, have participated in the rail users' survey conducted for the MDH. Shippers were informed of the rail study and then asked questions regarding the importance of rail service to their operation and the availability of alternative modes, were rail service discontinued.

Perhaps the most effective mechanism has been a monthly newsletter published and broadly distributed among state and local governmental agencies, shippers along studied lines, other interest groups, and individuals desiring information on the rail program. The purpose or objective of the newsletter is to (a) present study findings, (b) describe the analytical procedures being used, (c) keep the public abreast on the Milwaukee situation, and (d) provide other information needed to supplement or support the rail planning process.

C. Review and Comment on the Draft Plan

No final decision has yet been made by the Union Pacific or the Burlington Northern as to which Milwaukee lines in Montana, if any, will be purchased by either railroad. Consequently, it has

not been possible to determine specifically which Milwaukee lines will be abandoned and which will be transferred to other railroads. Additional analysis of other Milwaukee lines in Montana is anticipated over the next several months. Rather than to delay distribution of this Plan pending completion of these assessments, the findings of such analyses will be disseminated through supplements to the Montana Rail Plan .

D. Public Information Meeting

After distribution of the plan document and allowing sufficient time for its review by those interested in rail planning, a single public information meeting will be held in Helena to receive statements or comments. Names of all individuals, agencies, organizations, and local governments having an interest in rail planning will be notified of the time and place of the public hearing. Notices will also be published in newspapers. Statements or comments made at the meeting will be used in revising or updating the Montana Rail Plan, as appropriate.

VII. DESCRIPTION OF THE OVERALL PLANNING PROCESS FOR ALL TRANSPORTATION SERVICES IN THE STATE

Federal regulations require the state rail plan include "a description of the overall planning process for all transportation services in the state."[1/]

Montana fully recognizes the importance of its rail system and its dependence upon it. Present rail issues reflect (1) the potential loss of virtually all intramodal rail competition, with resulting inflexibility in service and rate structures, (2) the physical obsolescence of appreciable portions of the rail system accentuated by a deferral of necessary maintenance and upgrading expenditures, (3) car supply and transit time reliability problems, and (4) traffic erosion stemming from past or projected infrastructure investments in other modes.[2/] Resolution of issues such as these mandates a careful accounting of the gains and losses accruing to the affected modes, and a decision as to where capital investments (or regulatory actions) produce the greatest public benefit. Such intramodal decision making is gradually coming about even though Montana has not yet integrated the two Departments primarily responsible for the transportation planning for the different modes into a unified organization.[3/]

1/ 49 CFR Part 266.15(c)(7).

2/ Not necessarily located in Montana (e.g., the Port of Lewiston, Idaho).

3/ The Department of Highways and the Department of Community Affairs.

The Montana Department of Highways is responsible for highway and rail planning. Highway systems planning involves determining regional transportation needs and includes the consideration of other modes as well as alternative routes or corridors. Highway planning subdivides into six different categories: (1) urbanized areas over 50,000 population, which are required to have a 3-C transportation planning process (i.e., Billings and Great Falls), (2) urban areas (under 50,000 population) which have developed a formalized process similar to that existing in the two urban areas in Montana, (3) other urban areas having a less formalized process, (4) rural preliminary highways, (5) secondary highways in each of Montana's 56 counties and (6) off-systems roads. The first three categories represent a joint effort between local governments and the MDH. MDH is responsible for primary highways and undertakes the planning, design and construction of secondary highways for counties. Rail planning stems from Executive Order 14-78 in which Governor Judge directed to MDH to administer and corrdinate a state rail plan. This assignment of responsibility was further amplified in House Bill 780.

The Department of Community Affairs is responsible for transit and aviation planning. Most of the transit planning and project implementation done to date has focused on meeting the needs of the elderly and handicapped dependent upon public transportation for meeting their basic medical, business and social needs. Aviation planning primarily project oriented, is directed toward improving the capabilities of the state's air carrier and general aviation airports. DCA also prepared the state portion of the National Airport Plan.

The creation of a Montana Department of Transportation is considered by many as inevitable. Until a Department is established through legislation, modal transportation planning will continue largely as it has been conducted in the past (except for rail planning, which is new to the state). An integrated statewide transportation planning process will gradually come about once the separate modal planning functions are consolidated into a single agency.

TECHNICAL APPENDIX A

M O N T A N A R A I L P L A N

August, 1979

Pursuant to Section 803 of the Railroad
Revitalization and Regulatory Reform Act of 1976

Prepared by:
Rail Planning Unit
Montana Department of Highways
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In Cooperation with
The Federal Railroad Administration
United States Department of Transportation

TECHNICAL APPENDIX A

INDIVIDUAL LIGHT DENSITY LINE ASSESSMENTS

LINE INDEX

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Note: The assessment for line 11 was originally prepared for inclusion in the Idaho Rail Plan. Included with the permission of the Idaho Transportation Department.

Line 1 Agawam to Great Falls

This line, which consists of most of the 14th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from the railroad bridge across the Missouri River at Great Falls to Agawam, a distance of approximately 65.6 miles in Cascade and Teton Counties. By application filed November 27, 1978, the Milwaukee Road is seeking authority to abandon a portion of this branch extending from milepost 234.3 near Fairfield to milepost 265.6 near Agawam, a distance of 31.3 miles in Teton County. Consequently, this portion of the line is classified as ICC Systems Diagram Category 3 (pending abandonment). Shippers located at Choteau will continue to receive Burlington Northern rail service over trackage currently owned and operated jointly by the Burlington Northern and Milwaukee Road between Eastham Jct. and Choteau Jct. (mileposts 244.4 to 251.2). This joint trackage is a portion of the Burlington Northern's Vaughn to Pendroy branchline. The Milwaukee, which has announced its intention to abandon all lines west of Miles City, has recently classified the remainder of the line as ICC System Diagram Category 1 (abandonment anticipated within three years).

LEGEND

——— Agawam to Great Falls	O Freight Station
——— Other Lines	• Other Station

1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The eight, rail-oriented firms located along this line reported shipping 1200 and receiving 17 carloads of the following commodities during 1978.1/

Commodity Type		1978 Cars	1978 Tons
Wheat	Outbound	160	10,720
Barley	Outbound	1,040	69,680
Fertilizer	Inbound	12	960
Farm Equipment	Inbound	5	100
Total		1,217	81,460

Of this traffic, 153 carloads were reported as originating or terminating north of Choteau, 355 carloads at Choteau, and 709 carloads at Fairfield.

Milwaukee records indicated that 479 carloads originated or terminated north of Fairfield in 1976, 426 carloads in 1977, and 386 carloads in 1978.2/ This decline in traffic on the northern portion of the line is due largely to the condition of the line and resulting service embargoes plus the car supply and transit reliability problems being experienced by all elevator operators on the Milwaukee system. Department of Agriculture records indicate both a decline in the volume of grain handled at Agawam and a diversion to truck in recent years, especially for wheat shipments to the west coast and interior of Washington and Oregon. A similar decline appears to have occurred at Choteau although the records are not as complete.

The elevators at Fairfield largely handle barley, which is shipped to the west coast (10%), the interior of Washington and Oregon (10%), Minnesota (35%), and locally in Montana (45%). Rail remains the dominant mode although some diversion to truck has apparently occurred in recent years (combination of truck/barge shipments through Lewiston and Central Ferry and backhaul movements by truck). Wheat shipments are largely to the west coast (55%), the interior of Washington and Oregon (35%) and Montana (10%). Again, increasing diversion to truck can be noted from the Department of Agriculture records.

1/ Commodity flow data supplied by the shippers located on this line. The Milwaukee reported originating/terminating 1181 carloads on this line in 1978.

2/ Milwaukee abandonment application AB-7 (Sub No 78F), Exhibit 7, November 27, 1978, (1976 and 1977 traffic data). The difference in traffic between the shippers' survey (508) and Milwaukee records (387) for traffic originating or terminating north of Fairfield may stem from shipper inclusion of some carloads which may have been handled by the Burlington Northern, rather than the Milwaukee.

2. REVENUES AND COSTS OF RAIL SERVICE

Attributable Revenues	Base Year[1]	Projected Subsidy Year Operations[2]
1. Freight Originated and/or Terminated On-Branch	$1,907,884	$2,000,000
2. Bridge Traffic		
3. Demurrage		
4. All Other		
5. Total Revenues Attributable	$1,907,884	$2,000,000
Avoidable Costs		
6. Off-Branch Costs	$1,059,000	$1,144,000
7. On-Branch Costs		
a. Maintenance of Way & Structures	10,000	70,000
b. Maintenance of Equipment	35,000	38,000
c. Traffic		
d. Transportation	101,000	109,000
e. Miscellaneous General		
f. Miscellaneous Operations		
g. Fringe Benefits	20,000	38,000
h. Taxes	1,000	1,000
i. Rent Income		
j. Rent Costs		
k. Bridge Traffic Rerouting		
l. Contingencies		
8. Total Avoidable Costs	$1,226,000	$1,400,000
Return on Value		
9. Valuation of Property		
a. Working Capital		$ 54,000
b. Income Tax Benefits		-
c. Net Liquidation Benefits		
d. Total		$
10. Rate of Return		16.68%
11. Total Return on Value		$
12. Estimated Subsidy Payment (not including rehabilitation)		$

1/ July 1977 through June 1978 scaled upwards to include the full line. See the Milwaukee abandonment application AB-7 (Sub No 78F) Exhibit 8, November 27, 1978.

2/ MDH rough estimate.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The Agawam branch, originally constructed in 1917 by a predecessor to the present Milwaukee Railroad, is a single track line with passing sidings at Ashuelot, Fairfield, Choteau, Farmington and Agawam. The maximum gradient is 1.2 percent and the maximum curvature is five degrees. Two sections are owned jointly with the Burlington Northern: (1) between Choteau and Eastham Junctions, the line follows the original Milwaukee trackage (maintained by the Milwaukee) and (2) between Emerson and Dracut Junctions, the line follows the original Great Northern trackage. The line was originally constructed with 65 pound rail although several sections have since been relaid with heavier rail. The Milwaukee considers the rail in worn, but serviceable, condition and joint bars in fair to good condition. Cross-ties are a mixture of about half hardwood and half softwood ties ranging from 30 to 35 years in age. The Milwaukee estimates that about a quarter of the ties will have to be replaced over the next five years. Ballast consists of pit run gravel underlying sod; no surfacing has been accomplished in recent years.[1/] Track line and surface are considered to be from fair to good.

While the Milwaukee timetable shows a maximum speed of 25 mph (implies FRA Track Class 2 conditions), track conditions probably do not permit speeds in excess of 10 mph on portions of the line, particularly the northern end. Maintenance of way expenditures in recent years have been minimal. Extensive rehabilitation is required if service is to be maintained on this line over the long term. The cost of rehabilitating, over a five-year period, the portion of the line north of Fairfield has been estimated by the Milwaukee as follows:[2/]

Description	Unit	Quantity	Unit Cost Material	Unit Cost Labor	1st Year Total Cost
Rail Replacement	Trk Ft	2,750	$ 5.10	$ 2.55	$21,013
Cross-tie Replacement	Each	3,135	13.00	8.50	67,403
Ballast	Cu Yd	2,300	4.30	8.50	29,440
Other Track Material	Lot	1	7000	-	7,000
Align and Surface	Mile	2	-	4500	9,000
Repair Grade Crossings	Foot	100	10.25	8.25	1,850
Bridge & Culvert Work	Lot	1	4500	13,000	17,500
Weed & Brush Control	Mile	31.35	175	95.00	8,464
Misc. Expense[3/]	-	-	-	-	60,923
Total (including 10% for contingencies)					$244,119

1/ The Burlington Northern surfaced the jointly-owned trackage between Emerson and Dracut Junctions in 1963 and the Milwaukee completed two miles of resurfacing between Emerson Junction and Great Falls in 1967.

2/ Milwaukee abandonment application AB-7 (Sub No 78F), Exhibit 5, November 27, 1978. Estimate covers the portion from MP 234.3 to 265.6 (31.3 mi).

3/ Includes store and purchase expenses, transportation of materials, equipment repairs and fuel, payroll additions, risk insurance, and fringe benefits.

Similar rehabilitation costs of $263,649, $284,741, $307,520, and $332,122 have been estimated for 1980 through 1983, thus producing a total rehabilitation estimate of $1,432,151 for 31.3 miles of track ($45,756 per mile). Extending this estimate to cover the entire 57.3 miles of track for which the Milwaukee would logically be responsible, rehabilitation of this line would cost in the order of $2.6 million.

In addition, a physical inspection of two segments between (1) Choteau and Fairfield, and (2) Vaughn and Great Falls was conducted by Railway Technology Services, Inc. for MDH during June, 1979 with quantitative data samples being taken at ten locations and qualitative spot checks at several additional locations to verify the consistency of trackwork and conditions.

The cost of rehabilitating the first segment (owned by the Milwaukee) to fully meet FRA Track Class 1 conditions to permit 10-15 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	2,506	$ 23.00	$ 57,638
Joint Tightening	miles	17.4	288.00	5,011
Turnout Rehab.-Frogs	each	4	294.00	1,176
Switch Ties	lin ft	768	8.20	6,298
Light Ballast Dump	cu yd	14,459	6.60	95,429
Spot Surfacing & Lining	miles	17.4	991.00	17,243
Spraying	miles	17.4	364	6,334
Total for 17.4 miles				$189,129
Cost per Mile				$ 10,869

The cost of rehabilitating this segment to fully meet FRA Track Class 2 conditions to permit 20-30 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	5,011	$ 23.00	$115,253
Joint Tightening	miles	17.4	288.00	5,011
Tie Plate Replacement	each	16,036	3.85	61,739
Turnout Rehab.-Frogs	each	4	294.00	1,176
Switch Ties	lin ft	768	8.20	6,298
Full Ballast Dump	cu yd	22,115	6.60	145,959
Surfacing & Lining	miles	17.4	3,172.00	55,193
Spraying	miles	17.4	364.00	6,334
Total for 17.4 miles				$396,963
Cost per Mile				$ 22,814

The total salvage value of the segment was estimated to be $338,391. Pick-up costs were estimated to be $232,655 for a net salvage value of $105,736 ($6,077 per mile).

The cost of rehabilitating the second segment (jointly owned by the Milwaukee and the Burlington Northern and maintained by the latter) to fully meet FRA Track Class 1 conditions to permit 10-15 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-Tie Replacement	each	670	$ 23.00	$ 15,410
Joint Tightening	mile	15.5	288.00	4,464
Turnout Rehab.-Frogs	each	16	294.00	4,704
Switch Ties	lin ft	1,920	8.20	15,744
Light Ballast Dump	cu yd	6,150	6.60	40,490
Spot Tamping	mile	7.4	991.00	7,333
Spraying	mile	7.4	364.00	2,694
Total for 15.5 miles				$ 90,939
Cost per Mile				$ 5,867

The cost of rehabilitating this segment to fully meet FRA Track Class 2 conditions to permit 20-30 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-Tie Replacement	each	1,228	$ 23.00	$ 28,244
Joint Tightening	mile	15.5	288.00	4,464
Turnout Rehab.-Frogs	each	16	294.00	4,704
Switch Ties	lin ft	1,920	8.20	15,744
Light Ballast Dump	cu yd	6,150	6.60	40,590
Spot Tamping	mile	8.1	991.00	8,027
Surfacing & Lining	mile	7.4	3,172.00	23,473
Spraying	mile	15.5	364.00	5,642
Total for 15.5 miles				$130,888
Cost per Mile				$ 8,444

4. FUTURE FREIGHT SERVICE NEEDS

This line serves, in part, one of the more important wheat- and barley-producing areas in Montana (Teton County alone accounted for about eight percent of the barley grown in the state in 1976 and 1977). Unlike wheat, much of which is exported through grain terminals on the west coast, much of the barley is shipped to Minnesota or Wisconsin where it is used for malting purposes. Fairfield accounted for 65 percent of the traffic on this line and Choteau for an additional 21 percent. Less than ten percent of traffic originated or terminated at Agawam.

Thus, the main need is for providing continuing rail service to Fairfield and Choteau. Since the latter station is also served by the Burlington Northern, retention of Milwaukee service at Choteau is unnecessary. Several options exist for providing continuing rail service into Fairfield.

Although some diversion to truck has occurred in recent years (up through 1976, approximately 95 percent of the wheat and barley went by rail whereas in 1979 the amount anticipated to move by rail is roughly 80 percent, assuming continuing rail service), this loss reflects car supply and transit time reliability problems rather than any rate advantages. Elevator operators still prefer rail service over trucks as rail provides better control over the price ultimately received at the grain markets.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received over this line account for 0.27 percent of all traffic originating or terminating in Montana in 1978. Thus the impact of abandonment on the transportation needs of the state is relatively small.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service by the Burlington Northern to Choteau and Fairfield is a highly viable solution, provided that the Milwaukee is willing to sell or transfer its trackage between Eastham Junction and Fairfield to the Burlington Northern.[1/] Based on present traffic demands, reliable service by one carrier is more important than the retention of competitive service. Under such an arrangement, substantial railroad efficiencies and savings can be realized while providing continued rail service to all but one of the substantial users of the rail line. The Burlington Northern will acquire additional revenues to offset additional transportation and maintenance costs, while the Milwaukee will be able to recoup assets tied up in lightly used trackage in need of major rehabilitation.

1/ In addition, the Burlington Northern would have to acquire the Milwaukee's interest in the portions of the line between Eastham and Choteau Junctions and between Vaughn and Emerson Junction. This would permit the abandonment of jointly-owned trackage between Vaughn and Dracut Junction and Milwaukee trackage between Dracut Junction and Fairfield and Choteau Junction and Agawam.

Another possibility is to abandon the line north of Fairfield, as proposed in the Milwaukee's abandonment application. While this option would permit continued service to several small shippers located at Ashuelot, it would necessitate the continued operation of an additional 13 miles of track.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line has in the past been served on an as-needed basis by one locomotive (a GP-9) and a four-man local crew operating out of Great Falls. In 1976 and 1977, 63 and 57 round trips were made on the branchline.1/ Further service reductions to achieve substantial operating economies do not appear to be possible.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

Acquisition and operation of the Eastham Junction-Fairfield segment by the Burlington Northern would strengthen the viability of the railroad's Montana Division-9th Subdivision line (Power to Pendroy). Should this rationalization not come about, then the abandonment or continued operation of the line would have no effect on any other rail carrier.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues do exceed avoidable costs.

1/ No information is available on the number of trips made in 1978, although 17 trips were reported during the first six months of 1978. Portions of the line have been reported as being embargoed (e.g., between Choteau and Agawam and Dracut Junction and Fairfield) for portions of 1978.

By application dated November 27, 1978, the Milwaukee is seeking ICC authority to abandon the line north of Fairfield. Under recent revisions to the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used in subsidizing operations, acquisition, rehabilitation or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is uncertain whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

Several scenarios for continued operations were analyzed. The three investment options considered were:

- Retain present rail service without rehabilitation, to the extent that track conditions allow continued operations.
- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.
- Undertake a more extensive one-time rehabilitation to substantially upgrade the track structure so that it could handle fully-laden 100-ton hopper cars.

Three configuration/ownership options were also evaluated:

- Retention of the present line in full by the Milwaukee or successor railroad.
- Retention of the present line between Great Falls and Fairfield by the Milwaukee or successor railroad and abandonment of the portion north of Fairfield and Agawam.
- Sale or transfer of the trackage between Eastham Junction and Fairfield to the Burlington Northern and abandonment of the remaining trackage owned outright by the Milwaukee.

Along with the above investment and ownership options, two traffic scenarios are possible:

- Base year traffic (no traffic growth).

- Base year plus the potential traffic identified in the shippers' survey. This scenario, which conceivably could increase traffic by roughly 20 percent were better rail service available, has not been evaluated for two reasons: (1) better rail service is not a branchline issue per se, and (2) additional traffic simply increases the profitability of the line rather than affecting the conclusions to be reached.

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, ownership, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Based on MDH calculations (Milwaukee records were not available for this line), the line appears to return a $155 thousand per year profit with present traffic after including a higher allowance for maintenance, an appropriate return on investment, and amortization of Class 1 rehabilitation costs. (The portion of the line between Great Falls and Fairfield, inclusive, earns $162 thousand per year, whereas the portion between Fairfield and Agawam loses approximately $7 thousand per year.)

While the line appears to be profitable, the general obsolescence and poor physical condition of the track (caused by years of deferred maintenance) tend to rule out any long-term continuation of rail service as provided by the Milwaukee in the past. The line has changed very little from the time it was built in 1917 with 65-pound rail. While track conditions can be improved through extensive tie renewals and ballasting, this still will not permit the use of fully-laden 100-ton hoppers. To achieve this added capability, the rail would have to be replaced with 90- or 100-pound rail. All of this could be done, were the funds available. Extending the figures contained in the Milwaukee abandonment application, MDH has estimated the cost of rehabilitating the entire line at $3.2 million and for upgrading the line at $14.1 million. The latter investment cannot be amortized using present profits or those which could be reasonably expected from more efficient rail operations. The former could, although it is not the most efficient investment possible.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 1 - Agawam to Great Falls

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	78,347	54,356	1,001,549	
Abandon the Portions:				
Great Falls - Fairfield	310	215	3,958	
Fairfield - Choteau	73,891	51,265	944,589	
Choteau - Agawam	4,147	2,877	53,003	
Retain Rail Service				
A. MILW Operation, Great Falls-Fairfield				
w/o Rehab.	(50,182)	(38,684)	(707,023)	3/
Rehab. to Class 1	(39,820)	(30,696)	(561,192)	3/
Rehab. to Class 2	(44,606)	(34,385)	(628,640)	3/
B. MILW Operation, Fairfield-Agawam				
w/o Rehab.	(6,593)	(5,081)	(92,879)	3/
Rehab. to Class 1	1,635	1,260	23,037	2.30
Rehab. to Class 2	7,534	5,807	106,170	0.50
C. BN Operation, Eastham Jct.-Fairfield				
w/o Rehab.	(102,730)	(79,192)	(1,447,764)	3/
Rehab. to Class 1	(100,032)	(77,112)	(1,409,751)	3/
Rehab. to Class 2	(101,333)	(78,115)	(1,428,091)	3/

1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternative shown.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 1 - Great Falls to Agawam

	Component Impact [1]	Affected Group	Gain/Loss ($000[3]) A	B	C	D [2]
1.	Wage and Salary Loss in Affected Counties [3]	General Populace	0	0	0	0
2.	Offsetting Gains Elsewhere in Montana	Other Counties	0	0	0	0
3.	Loss in Local Purchases in Affected Counties	Business Community	0	0	0	0
4.	Offsetting Gains Elsewhere in Montana	Other Counties	0	0	0	0
5.	Unemployment Payments	Employers throughout Montana	0	0	0	0
6.	Income Tax Loss	State Government	0	0	0	0
7.	Transport Cost Increase [5]	Shippers	-1,002	-4	-945	-53
8.	Increased Highway Maintenance & Reconst. Cost	MDH	4/	4/	4/	4/
9.	Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	+561	N.A.	+1,410	-23
10.	Opp. Costs Realized through Abandonment [7]	Owning RR	+419	+100	+292	+83

1/ Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

2/ Present value over a four-year period. Four segments cover: A-entire line, B-Great Falls (excluded) to Fairfield (excluded), C-Fairfield to Choleau (Milw. Shippers only), and D-Choleau (excluded) to Agawam.

3/ Represents primary and secondary wage loss less any increases in local trucking employment.

4/ Data not presently available.

5/ Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

6/ Continued operation as at present with rehabilitation to Class I standards.

7/ Net salvage value invested at nine percent interest for four years.

Would terminating the line north of Fairfield be a more cost-efficient solution? Reworking the figures contained in the Milwaukee abandonment application, MDH estimates the cost of rehabilitating this portion of the line at $1.2 million and for upgrading to handle fully-laden 100-ton hoppers at $6.4 million, less than half the cost of rehabilitating or upgrading the entire line. If the Milwaukee or successor railroad elects to continue to operate into Great Falls, then continuation of that line to Fairfield is warranted.

However, the most cost-effective solution is Burlington Northern takeover of the portion of the line between Eastham Junction and south of Fairfield. Again, reworking the figures contained in the Milwaukee abandonment application, MDH estimates the cost of upgrading this portion of the line at $0.49 million and for upgrading to handle fully-laden 100-ton hoppers at $2.64 million. MDH estimates that operation of this segment by the Burlington Northern would produce an annual profit of approximately $407 thousand under the same conditions (continued Milwaukee operation).

The cost of discontinuing rail service (community impacts) for the entire line amounts to approximately $403 thousand annually and is comprised solely of increases in transport costs. (The cost of discontinuing rail service between Fairfield and Choteau is approximately $398 thousand per year, thus accounting for 99 percent of potential abandonment impacts). These estimates are based on the use of nearby elevators in place of those no longer receiving rail service. Were trucks to be used to transport grain all-the-way to its ultimate destination (or a river port for continuing movement by barge), the cost of discontinuing rail service is estimated at $175 thousand annually for the entire line and $148 thousand annually for the portion between Fairfield and Choteau.

No economic basis presently exists for the abandonment of this line (except the portion between Choteau and Agawam) although the Department anticipates that such an abandonment application will shortly be filed by the Milwaukee as part of its reorganization efforts. Since the line between Great Falls and Fairfield or Fairfield and Choteau appears profitable, the Department will seek the continuation of rail service for shippers located at Fairfield and Choteau. Which segment is retained depends upon whether the Milwaukee remains in business, either in its present form or as some type of successor railroad in the northwest. If this happens, then retention of the trackage between Vaughn and Fairfield would be practical. Otherwise, the segment between Fairfield and Eastham Junction should be sold to the Burlington Northern.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision to oppose abandonment of rail service at Choteau and Fairfield is based on the following criteria given in the revised Montana Planning Work Statement, dated June 1979.

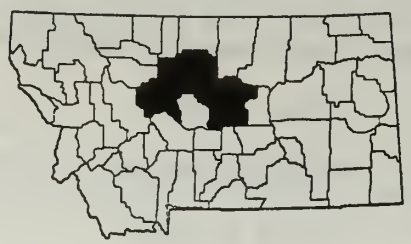
- Retention of the 10.7 mile line required to service Fairfield does have potential economic viability. (Rail service is already provided at Choteau.)
- The economic impacts of the loss of rail service at these two Milwaukee stations are substantial.
- Significant community impacts would result from abandonment.
- Alternate modes are not readily available.
- Rail system consolidation is a practical solution, in this instance.

Line 2 Great Falls to Lewistown

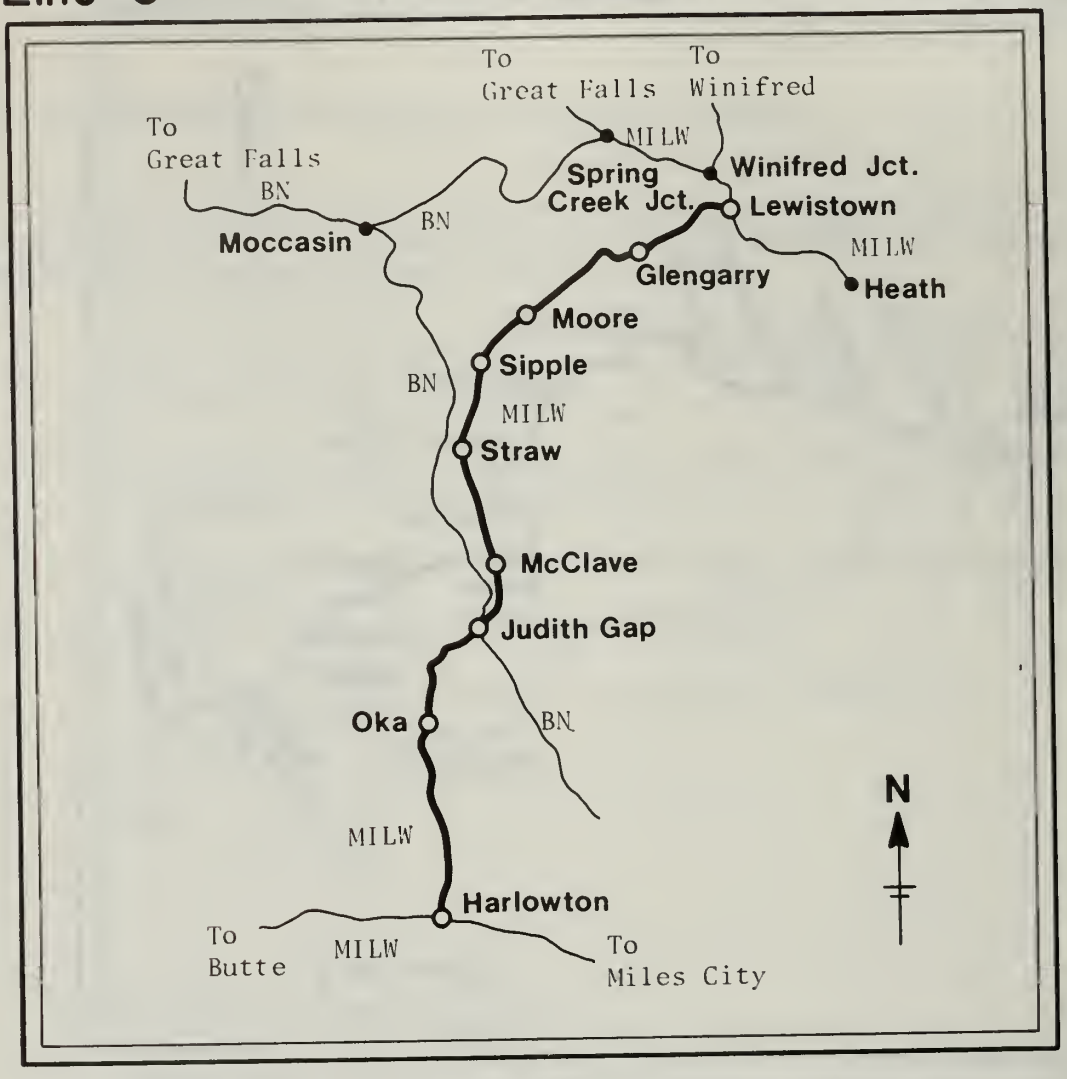
This line, which consists of most of the 13th Subdivision, and a small portion of the 14th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from Lewistown to the railroad bridge across the Missouri River at Great Falls, a distance of approximately 138.1 miles in Cascade, Choteau, and Fergus Counties. The line has recently been classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years). The Milwaukee has announced its intention to abandon all lines west of Miles City.

LEGEND

- **Great Falls to Lewistown**
- **Other Lines**
- **O Freight Station**
- **• Other Station**



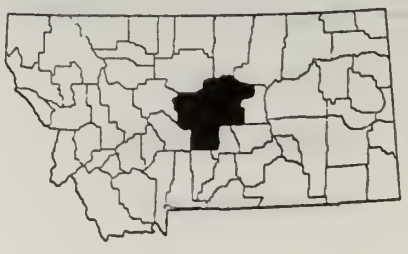
Line 3 Lewistown to Harlowton



This line, which consists of the 10th Subdivision, and a small portion of the 13th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from Harlowton (on the Milwaukee's 4th Subdivision Main Line) to Lewistown, a distance of approximately 62.3 miles in Fergus, Judith Basin, and Wheatland Counties. This line has recently been classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years). The Milwaukee has announced its intention to abandon all lines west of Miles City.

LEGEND

- **Lewistown to Harlowton**
- **Other Lines**
- **Freight Station**
- **Other Station**



Note: Because of the strong interrelationship between Lines 2 and 3, the assessments for these two lines have been combined together. Also involved to a lesser extent is Line 5 (Lewistown to Heath) and Line 6 (Moccasin to Lewistown).

1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The 76 rail-oriented firms located along the 10th, 13th, and the portion of the 14th Subdivision in Great Falls reported shipping approximately 7200 carloads of the following commodities during 1978.[1/]

Segment	Commodity Type		Carloads	Tons[2/]
Black Eagle	Copper Shapes, Products	Inbound	Approx.	50,500
	Copper Shapes, Products	Outbound	1000	56,700
Great Falls	Wheat, Flour, etc.	Outbound	2147	143,800
	Food stuffs, manufactured products, farm and bldg. supplies, etc.	Inbound	729	36,000
13th Subdivision (less Lewistown)	Wheat	Outbound	1376	92,200
	Barley	Outbound	603	
	Farm Implements	Inbound	20	400
	Fertilizer	Inbound	43	3,400
Lewistown	Wheat	Outbound	488	32,700
	Bricks	Outbound	8	500
	Manufactured Products	Inbound	27	1,600
10th Subdivision	Wheat	Outbound	554	37,100
	Barley	Outbound	66	4,400
	Feed	Inbound	5	400
	Fertilizer	Inbound	40	3,200
	Machinery	Inbound	7	200
	Coal	Inbound	2	200
Totals			7,244	503,700

Worksheet I summarizes line and shipper characteristics. Outside of Great Falls and Lewistown, major shippers are public grain warehouses. Within Great Falls and Lewistown, the major shippers are again public grain warehouses although a large variety of other firms also use rail service to varying degrees. Many shippers in Great Falls and Lewistown also receive Burlington Northern rail service either through reciprocal switching or use of public team tracks. The line accounts for approximately 30 percent of the Milwaukee's originating and terminating traffic in Montana.

1/ Commodity flow data basically supplied by shippers located on line. Some adjustments necessary to separate between Milwaukee and Burlington Northern shipments and receipts at Black Eagle, Great Falls, and Lewistown.

2/ Estimated.

The major commodities served by this line are wheat and barley. Nearly all of the wheat traffic is destined to Oregon or Washington for export purposes. On the other hand, roughly two-thirds of the barley is sold as malting barley and the remainder for feed purposes. The main malting barley markets are in Minnesota and Wisconsin, with smaller amounts destined to Washington and Missouri. Feed barley is shipped primarily to Oregon and Washington. Most of the fertilizer originates in Canada (Saskatchewan), Washington or Idaho. Agricultural equipment comes from Ontario, Illinois, Tennessee, and Iowa.

The next most important commodity are the copper shapes and products originating or terminating at the smelter just outside of Great Falls. Inbound traffic generally originates at Butte or other copper mines in the west. Outbound traffic is destined to 21 states generally located in the east and south. Both the Milwaukee and the Burlington Northern share in this traffic with the Milwaukee receiving about one-quarter of the total traffic to and from Black Eagle.

Another important factor is the distribution of traffic along this line, which is summarized below:

Segment	Percent Originating or Terminating	Comments
Black Eagle	16	Station also served by Burlington Northern.
Great Falls	40	Already partially served by Burlington Northern, or could be served by takeover of 4 ± miles of Milwaukee trackage in Great Falls.
13th Subdivision (less Lewistown)	28	Traffic originates/terminates as follows: Denton 10% Geraldine 9% Highwood 4% Danvers, Coffee Creek, Square Butte, Shonkin, and Waltham - about 1% each.
Lewistown	7	Could be readily served by Burlington Northern.
10th Subdivision	9	Of the amount shown, 6% originates/terminates at Moore.

Thus, nearly two-thirds of the existing traffic could be served via Burlington Northern takeover of Milwaukee lines in Great Falls and Lewistown.

How stable are present grain movements, which account for the vast majority of traffic on this line? MDH has carefully examined Montana Department of Agriculture data on shipments made by 13 different grain public warehouses located on the line outside of Great Falls between January, 1976 and April, 1979. The results, shown on the following page, indicate that rather substantial changes are taking place in the marketing of grain and the resulting modal distribution. Both changes are highly interrelated and are considered to stem more from car supply and transit time reliability problems, rather than from transport cost differences.1/

For years, rail has been the dominant mode in moving wheat to traditional markets -- the west coast (export grain), the interior of Washington and Oregon (both export and domestic), and internally in Montana. Up through 1978, rail has been able to retain its 90 percent share of the traffic (variations reflect the size of the harvest and the use of motor carriers as backup to rail transport). During the first four months of 1979, substantial quantities of export grain apparently were diverted to truck/barge through Lewiston, Idaho. However, 1979 represented one of the most difficult winters for rail operations in memory, with all carriers being plagued by car and motive power shortages, and other difficulties playing havoc with rail service. Thus, such diversion may be simply a passing phenomenon, assuming that the carriers have been able to restore service to levels enjoyed in previous years.

Rail has not been quite as dominant in transporting barley (barley accounts for 23 to 28 percent of the total grain traffic). In addition, the markets are quite different. Until recently, the principal markets have been the Pacific north coast, the interior of Oregon and Washington, Minneapolis/St. Paul, and Montana, in which rail captured 90 percent of the transport business. During the last two years, a marked shift in markets has occured to Idaho, California, and Utah, all of which are primarily served by truck. Even within traditional markets, the proportion moving by rail has declined considerably. Consequently, rail's share dropped from 83 percent in 1976 to less than half in 1978. Besides declining rail service, some of the shifts taking place stem from whether the barley can be sold as malting barley, (brings a higher price than barley used for feed purposes) and the increasing use of motor carrier backhaul movements in transporting agricultural products. Distance seems to be no limit; frequent movements by truck were noted to Minneapolis/St. Paul (presumably malting barley for use in manufacturing beer). Recent history suggests that rail's traditional proportion of the barley market may continue to erode as the barley markets become even more dispersed. Eventually, these marketing and modal distribution patterns should stabilize, however.

1/ Present truck rates average 3 to 3 1/2 ¢/bu under rail tariffs (rail and truck/barge rates to the Pacific north coast are nearly identical).

Volume and Distribution by Major Markets - Wheat
(thousands of bushels)

Year	PNC Vol.	PNC %	Int. OR/WA Vol.	Int. OR/WA %	Idaho Vol.	Idaho %	Montana Vol.	Montana %	Other Vol.	Other %	Total
1976	2612	68	586	15	335	9	303	8	13	-	3849
1977	1501	61	537	22	21	1	294	12	106	4	2459
1978	2079	59	991	28	156	4	131	4	158	4	3515
1979 (4 mo)	455	44	289	28	195	19	35	3	60	6	1034

Volume and Distribution by Major Markets - Barley
(thousands of bushels)

Year	PNC Vol.	PNC %	Int. OR/WA Vol.	Int. OR/WA %	MSP Vol.	MSP %	Montana Vol.	Montana %	Other Vol.	Other %	Total
1976	243	16	304	20	265	17	495	32	292	18	1599
1977	336	36	119	13	113	12	102	11	252	27	922
1978	54	5	251	24	93	9	164	15	503	47	1065
1979 (4 mo)	25	8	59	19	77	25	40	13	103	34	304

Modal Distribution by Major Market
(Percent transported by rail)

Year	Wheat PNC	Wheat OR/WA	Wheat ID	Wheat MT	Wheat All	Barley PNC	Barley OR/WA	Barley MSP	Barley MI	Barley Other	Barley All
1976	99	93	1	96	89	90	90	100	86	4	83
1977	97	87	0	98	92	98	92	88	98	9	77
1978	96	91	1	81	87	87	75	67	63	15	47
1979 (4 mo)	90	80	0	9	64	100	100	55	60	10	57

Notes:

Information shown based on shipments made by 13 grain public warehouses located along this line (outside of Great Falls). Source: Montana Department of Agriculture.

PNC - Pacific North Coast (grain being exported through OR/WA ports).
Int. OR/WA - Interior of Washington and Oregon (both domestic and export grain).
Idaho - Primarily truck shipments made to the Port of Lewistown (export grain).
MSP - Minneapolis/St. Paul and other destinations in Minnesota (malting barley).
Other (barley) - Primarily Idaho, California and Utah (order of importance).

2. REVENUES AND COSTS OF RAIL SERVICE[1/]

	Alternative	Revenue	Off-Branch Costs	On-Branch Costs	Return on Value	Estimated Surplus
A.	MILW Operation Harlowton-Great Falls	$10,523	$5,277	$2,684	$ 469	$ 2,093
B.	MILW Operation Harlowton-Highwood	6,084	3,112	1,381	400	1,191
C.	MILW Operation Harlowton-Geraldine	5,323	2,686	1,182	347	1,112
D.	MILW Operation Harlowton-Denton	3,902	1,888	882	277	855
E.	MILW Operation Harlowton-Lewistown	2,270	974	544	217	535
F.	BN Operation Great Falls-Highwood	761	426	199	11[2/]	125
G.	BN Operation Great Falls-Square Butte	2,247	1,258	644	12[2/]	333
H.	BN Operation Great Falls-Denton	3,861	2,162	1,017	19[2/]	663
I.	BN Operation Moccasin-Geraldine	4,293	2,258	1,313	89[2/]	633
J.	BN Operation Moccasin-Denton	2,868	1,460	852	83[2/]	373
K.	BN Operation Moccasin-Lewistown	1,236	546	570	75[2/]	45
L.	BN Operation New Connection-Geraldine	5,031	2,549	1,369	143[2/]	970
M.	BN Operation New Connection-Denton	3,606	1,751	1,008	136[2/]	711
N.	BN Operation New Connection-Lewistown	1,974	837	626	100	381

1/ Based on Track Class 1 operation. BN operation includes both BN and MILW traffic; MILW operation excludes BN traffic. Also excluded is Heath and Winifred traffic.

2/ Assumes lease of Milwaukee trackage between Great Falls and Lewistown.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The 10th and 13th Subdivisions, originally constructed in 1912-13 by a predecessor to the present Milwaukee Railroad, is a single track line with passing sidings at Oka, Judith Gap, Garneill, Straw, Glengarry, Hanover, Amherst, Danvers, Denton, Arrow Creek, Pownal, Square Butte, Geraldine, Montague, Shonkin, Highwood and Waltham and local yards at Lewistown and Great Falls. Connections with the Burlington Northern exist at Judith Gap, Lewistown, and Great Falls. The maximum gradient is 1.5 percent in the vicinity of Arrow Creek and the maximum curvature is eight degrees. One section between Spring Creek Junction and Lewistown (9.2 miles) is jointly owned and operated with the Burlington Northern with the track maintained by the Milwaukee. The line was originally constructed with 75-pound rail although a number of sections, particularly south of Lewistown, have since been relaid with 85-, 90- or 100-pound rail. The maximum allowable timetable speeds are 40 mph on the 10th Subdivision and 35 mph on the 13th Subdivision, although slow orders due to track conditions limit speeds generally to 10 or 25 mph.

A physical inspection of the line was conducted by Railway Technology Services, Inc. for the MDH during June, 1979 with quantitative data samples being taken at 25 locations and qualitative spot checks at numerous additional locations to verify the consistency of track work and conditions. The line was found to be in poor to fair condition with the major deficiencies being the need for tie renewals and ballasting.[1/]

The cost of rehabilitating the track to fully meet FRA Track Class 1 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	42,725	$ 23.00	$982,675
Joint Tightening	miles	194.3	288.00	55,958
Replace Joint Bars	prs	180	40.50	7,290
Turnout Rehab.-Frogs	each	86	294.00	44,394
Switch Ties	lin ft	14,580	8.20	119,556
Light Ballast Dump	cu yd	72,297	6.60	477,160
Spot Tamping	mile	122.4	991.00	121,298
Spraying	mile	100	364.00	36,400
Embankment Work	cu yd	40,000	1.10	44,000
Total for 194.3 miles				$1,888,731
Cost per Mile				$ 9,720

Component rehabilitation costs are $1,307,436 for the section between Great Falls and Lewistown, $478,633 for Lewistown to Judith Gap, and $102,664 for Judith Gap to Harlowton.

1/ For a more complete report on observed conditions, see pages 18-28 and 38-37 of the "Consultant's Report" dated June, 1979 prepared by Railway Technology Services, Inc. for RCAI. This report also describes the method of inspection and the manner in which rehabilitation, maintenance, and salvage value estimates have been prepared.

The cost of rehabilitating the track to fully meet FRA Track Class 2 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	75,851	$ 23.00	$1,744,573
Joint Tightening	mile	194.3	288.00	55,958
Replace Joint Bars	prs	180	40.50	7,290
Turnout Rehab.-Frogs	each	86	294.00	44,394
Switch Ties	lin ft	14,580	8.20	119,556
Light Ballast Dump	cu yd	98,894	6.60	652,700
Full Ballast Dump	cu yd	45,756	6.60	301,990
Spot Tamping	mile	30	991.00	29,730
Surfacing & Lining	mile	164.4	3,172.00	521,477
Spraying	mile	110	364.00	40,040
Embankment Work	cu yd	40,000	1.10	44,000
Total for 194.3 miles				$3,561,708
Cost per Mile				$ 18,331

Component rehabilitation costs are $2,399,607 for the section between Great Falls and Lewistown, $922,065 for Lewistown to Judith Gap, and $240,036 for Judith Gap to Harlowton.

No cost estimate has been developed for rehabilitating the Spring Creek trestle. The physical inspection conducted by Railway Technology Services, Inc. did not reveal any obvious deficiencies that would necessitate the need for major rehabilitation, as indicated by the owning railroad. This situation will be investigated as the need arises.

The total salvage value of the line was estimated to be $5,214,523. Pick-up costs were estimated to be $2,675,706 for a net salvage value of $2,538,817.

Several of the alternatives evaluated involve the construction of a new connection roughly one mile in length from the Burlington Northern's 5th Subdivision mainline approximately three miles north of Buffalo to the Milwaukee's 10th Subdivision approximately 13 miles north of Judith Gap. The cost of this connection is estimated as follows:

Description	Unit	Quantity	Unit Price	Cost
Right-of-Way	acre	15	$ 1,000	$ 15,000
Grading (5 ft. fill)	cu. yd.	30,000	1.50	45,000
Bridge Across Ross Flrk Crk.	each	1	25,000	25,000
Turnouts	each	2	12,000	24,000
Track	trk. ft.	5,200	35.00	132,000
Signs, Markers				1,000
				$292,000
Engineering, Contingencies				100,000
Total			say	$400,000

4. FUTURE FREIGHT SERVICE NEEDS

This line serves, in part, one of the most important wheat- and barley-producing areas of the state (Cascade, Choteau, Fergus and Judith Basin Counties accounted for over 20 percent of the wheat grown in Montana in 1976 and 1977 and 24 percent of the barley grown in 1977. Choteau County alone produced nearly 12 percent of the wheat grown in the state during this recent two-year period).

Approximately 18 grain public warehouses are located along this line having an aggregate capacity of around four million bushels. The largest warehouses are located at Great Falls, Denton, Lewistown and Harlowton. While the importance of these storage facilities has perhaps decreased somewhat in recent years with the growth of on-farm storage, they still handle the vast majority of grain movements. While rail traffic has decreased somewhat in recent years, the production of wheat and barley has remained at traditional levels, weather conditions permitting.

Since late 1977, the rail proportion of grain movements has dropped significantly. This change has been attributed to car shortages and unreliable transit times. Has this traffic been lost permanently? Montana Department of Agriculture officials feel that much of this business would come back to rail, were the service improved. Whether this will come about depends upon the attitude of the carriers and their desire to stay in the grain hauling business. While trucks presently enjoy a five cents per hundred weight (or 3 to 3 1/2 cents per bushel) rate advantage, various problems associated with shrinkage and product quality at the destination for movement by truck tend to negate the slightly lower rates. Elevator operators prefer rail. Truck transport of grain is considered marginal, with low profit margins caused in part by escalating fuel prices. Truck rates are set on the basis of rail rates. Were competitive rail service not available, then truck rates would undoubtedly rise to a point where an adequate return could be achieved by the various independents competing for the business. Some of the grain would probably bypass elevators no longer receiving rail service and be handled by facilities in Great Falls or Lewistown. The remainder would probably continue to be marketed by traditional elevators using trucking all-the-way to final destinations or to intermediate river ports. Over the long haul, it is doubtful that these elevators can remain competitive with those retaining rail service.

Were rail service discontinued, a concommitant requirement would be sufficient intramodal competition so as to insure maintenance of reasonable and stable rates to the farmer and/or grain dealer. Since the trucking would most likely be provided by individual owner/operators whose rates are unregulated, protection would depend solely on the presence of sufficient competition. Whether this course of events is truly in Montana's long term interest needs to be carefully considered. Once rail service ceases, there is very little possibility for its future restoration. In the face of changing modal economies and energy dependency, there is no guarantee that area interests will be best served over the long-term by total dependence upon motor carrier transport.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on these two lines account for 1.3 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would not be inconsequential. Initial economic, environmental and transportation impacts are shown on Worksheet II.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Rail alternatives consist of takeover of all or portions of the 10th and 13th Subdivisions by the Burlington Northern or continued operation by the Milwaukee or its successor. While feasible, operation of the line by another carrier has not been considered, largely because of the unlikelihood of such an operation. Non-rail alternatives consist of (1) trucking all-the-way to the ultimate destination or intermediate river ports (e.g., Lewiston, Central Ferry), (2) local trucking to remaining public grain warehouses for further shipment via rail, and (3) a combination of the two.

The impact on shippers of substituting alternate rail service depends more upon service and car supply rather than on the carrier per se. If improvements can be made over that provided by the Milwaukee in recent years, then the change will be beneficial. Less-than-full-retention of the line may cause a few smaller shippers to lose rail service, and thus incur increased transport costs and possibly curtailment/relocation of operations. Transit times to west coast grain markets will improve to the extent that loaded grain cars move westbound on the 13th Subdivision through Great Falls rather than through Lewistown and Harlowton.

The impact on shippers of substituting truck, truck/rail, or truck/water service would most likely be somewhat increased transport costs. Service problems associated with the availability of trucking might also occur until such time as the supply of vehicles increases to match the demand. Such problems depend upon the degree to which abandonment occurs (the entire line versus one or two isolated stations).

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line has in the past been served six days per week by one or two locomotives (GP-9's) and four-man local crews operating out of Lewistown.1/ Further service reductions to achieve substantial operating economies do not appear to be possible with present traffic.

1/ No information is available on the number of trips made in 1978.

Consolidation of Burlington and Milwaukee train operations in Lewistown does appear feasible. See Section 11. Under the various consolidation proposals, Milwaukee shippers at Great Falls would probably receive daily service. Service to remaining shippers along the 10th and 13th Subdivisions could be limited to two- or three-day-a-week service.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

Acquisition and operation of portions of the 10th and 13th Subdivisions by the Burlington Northern should strengthen the viability of that railroad's operations in central Montana.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues do exceed avoidable costs by a substantial amount.

No final decision has been made by the Milwaukee as to whether to seek the abandonment of this line, although the Trustee has announced his intention to abandon all lines west of Miles City. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

No final decision has been made by MDH whether to seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

A total of 14 scenarios for the continued operation of all or portions of Lines 2 and 3 have been evaluated. These are further expanded by several investment options. Ownership and configuration possibilities are identified below:

- Continued operation by the Milwaukee or its successor of all or a portion of its line between Harlowton and Great Falls. One option would be to operate the line as it now exists. A second option would be to retain service as far as Geraldine, transferring the trackage in Great Falls to the Burlington Northern and eliminating operations over a section of track having a long history of soil stability problems. A third option would be to terminate the line at Denton, thus eliminating operations over Arrow Creek. A fourth option would be to terminate the line just north of Lewistown, thus eliminating the need to retain the Spring Creek trestle. The latter assumes Burlington Northern abandonment of its Moccasin to Lewistown line (Milwaukee providing continuing rail service to Burlington Northern customers in Lewistown).

- Burlington Northern takeover of portions of the Milwaukee's 13th Subdivision, using the BN's Moccasin to Lewistown line for access to the southern end of the line. One option would be to operate east out of Great Falls to Highwood and west out of Lewistown to Geraldine.1/ A second option would be to operate east out of Great Falls to Geraldine and west out of Lewistown to Denton.2/ A third option would be to operate east out of Great Falls to Denton and west out of Lewistown only as far as Spring Creek Junction.3/ Also includes the Milwaukee's Lewistown area traffic and the traffic generated on the Milwaukee's Lewistown to Heath Line.4/

- Burlington Northern takeover of portions of the Milwaukee's 13th Subdivision, as described above, using the Milwaukee's 10th Subdivision line from Judith Gap north for access into Lewistown. This will permit the abandonment of the BN's Moccasin to Lewistown line and the remainder of the Milwaukee's 13th Subdivision. Also includes Milwaukee traffic originating and terminating at Moore and Garneill in addition to that identified previously.

1/ A further possibility, not evaluated, would be to extend service out of Great Falls to Shonkin, (rather than Highwood).

2/ A further possibility, not evaluated, would be to extend service out of Great Falls to Square Butte (rather than Geraldine) and west out of Lewistown to Coffee Creek (rather than Denton).

3/ A further possibility, not evaluated, would be to extend service out of Great Falls to Danvers (rather than Denton).

4/ Traffic from the Milwaukee's Lewistown to Winifred line has not been included.

- Burlington Northern takeover of portions of the Milwaukee's 13th Subdivision, as described previously, using a portion of the Milwaukee's 10th Subdivision line for access into Lewistown. A new connection roughly one mile in length would be constructed from the BN's 5th Subdivision mainline approximately three miles north of Buffalo to the Milwaukee's 10th Subdivision approximately 13 miles north of Judith Gap. This will permit the abandonment of the BN's Moccasin to Lewistown line and the remainder of the Milwaukee's 13th Subdivision. Also includes Milwaukee traffic originating and terminating at Moore in addition to that identified previously.

The three investment options considered are as follows:

- Retain present rail service without rehabilitation.

- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.

- Undertake a similar one-time rehabilitation to improve track structure such that it will fully meet FRA Track Class 2 standards for at least five years.

Along with the above ownership, configuration, and investment options, two traffic scenarios were also evaluated:

- Base year traffic (no traffic growth).

- Base year plus the potential traffic identified in the shippers' survey.

Two options not considered in this initial study are:[1/]

- Undertake a far more extensive one-time rehabilitation to substantially upgrade the track structure so that it could readily handle fully-laden 100-ton hopper cars. Involves replacing present 75-pound rail with 90-pound or heavier rail.

- Construct in the general Lewistown area, a grain subterminal to allow for the use of unit grain trains. Grain shipments presently made by rail from county elevators along the 10th and 13th Subdivisions would instead be trucked to the centralized facility where it would be loaded into 100-ton hoppers. Shipments would be made in 50-car units, rather than by single cars as at present. Such a subterminal would eventually permit the retirement of most of the 10th and 13th Subdivisions.[2/]

1/ Follow-up evaluation of these two possibilities is proposed for Phase III of the Montana Rail Study.

2/ Retention of Milwaukee trackage in Great Falls and the 10th Subdivision into Lewistown would be necessary to provide continuing rail service to existing shippers or consignees.

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, ownership and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Financial analysis of this line by MDH indicates profitability under most of the ownership, configuration, investment and traffic scenarios investigated. Profitability would increase were the line rehabilitated. Thus, no economic basis presently exists for abandonment although the MDH expects such a request by the Milwaukee as part of its reorganization efforts.

The two major problems facing any future operator of this line are (a) the obsolescence of the physical plant and (b) the apparent traffic erosion which results from car availability and unreliable transit times. Simply retaining the present rail trackage and continuing business as usual is insufficient; whoever operates the line must attack and solve the fundamental problems affecting the quality of the service being offered, thus stemming and revising the diversion taking place in the last two to three years. Otherwise, the long-term viability of this grain line cannot be assured.

Basically, there are four alternatives:

1. Allow abandonment to take place, thus forcing all grain to move by truck either to nearby grain public warehouses in Great Falls and Fort Benton, to river ports such as Lewiston and Central Ferry, or be trucked all-the-way to west coast or midwest destinations. The impact of line abandonment on primary and secondary roads in Choteau, Judith Basin, and Fergus Counties is presently being studied by the MDH; at this time the severity of the expected impact is unknown although calculations made for US 191 and State 236 (which parallel the Lewistown to Winifred line) indicate a reduction in design life of 44 percent for the

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 2/3 - Great Falls to Lewistown to Harlowton

Alternative		Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	Line 2	234,996	141,572	2,655,469	
	Line 3	127,366	69,465	1,318,651	
Abandon the Portions:					
Great Falls - Highwood		6,914	3,438	66,212	
Highwood - Geraldine		4,942	3,429	63,180	
Square Butte - Denton		0	0	0	
Denton - Lewistown		9,232	6,405	118,021	
Judith Gap - Harlowton		34,696	24,041	442,966	
Retain Rail Service					
A. MILW Operation, Harlowton-Great Falls (Existing. Includes Great Falls)[4/]					
w/o Rehab.		(526,356)	(405,755)	(7,417,895)	3/
Rehab. to Class 1		(467,685)	(360,527)	(6,591,041)	3/
Rehab. to Class 2		(555,942)	(428,563)	(7,834,843)	3/
B. MILW Operation, Lewistown-Highwood					
w/o Rehab.		(16,430)	(12,666)	(231,559)	3/
Rehab. to Class 1		27,035	20,841	380,999	9.18
Rehab. to Class 2		14,366	11,074	202,459	17.29
C. MILW Operation, Lewistown-Geraldine (plus Alternative E)					
w/o Rehab.		(141,677)	(109,208)	(1,996,522)	3/
Rehab. to Class 1		(123,819)	(95,449)	(1,744,982)	3/
Rehab. to Class 2		(124,112)	(95,675)	(1,749,101)	3/
D. MILW Operation, Lewistown-Denton (plus Alternative E)					
w/o Rehab.		(81,026)	(62,461)	(1,141,894)	3/
Rehab. to Class 1		(72,725)	(56,062)	(1,024,916)	3/
Rehab. to Class 2		(79,467)	(61,259)	(1,119,927)	3/
E. MILW Operation, Harlowton-Lewistown (present MILW Traffic)					
w/o Rehab.		(134,636)	(103,788)	(1,897,423)	3/
Rehab. to Class 1		(131,570)	(101,424)	(1,854,209)	3/
Rehab. to Class 2		(124,077)	(95,648)	(1,748,616)	3/

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 2/3 - Great Falls to Lewistown to Harlowton (Cont'd)

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Retain Rail Service (No Traffic Growth)				
F. BN Operation, Great Falls-Highwood (See Alternatives I through N)				
w/o Rehab.	(30,630)	(23,613)	(431,688)	3/
Rehab. to Class 1	(24,129)	(18,601)	(340,067)	3/
Rehab. to Class 2	(21,207)	(16,347)	(298,875)	3/
G. BN Operation, Great Falls-Square Butte (See Alternatives I through N)				
w/o Rehab.	(81,680)	(62,965)	(1,151,112)	3/
Rehab. to Class 1	(65,894)	(50,796)	(928,648)	3/
Rehab. to Class 2	(68,571)	(52,860)	(966,384)	3/
H. BN Operation, Great Falls-Denton (See Alternatives I through N)				
w/o Rehab.	(166,021)	(127,981)	(2,339,718)	3/
Rehab. to Class 1	(138,988)	(107,142)	(1,958,751)	3/
Rehab. to Class 2	(153,946)	(118,673)	(2,169,556)	3/
I. BN Operation, Lewistown-Highwood (plus Alternatives L, M, or N)				
w/o Rehab.	(45,491)	(35,069)	(641,106)	3/
Rehab. to Class 1	(2,026)	(1,562)	(28,548)	3/
Rehab. to Class 2	(26,245)	(20,231)	(369,874)	3/
J. BN Operation, Lewistown-Geraldine (plus Alternatives L, M, or N)				
w/o Rehab.	(144,466)	(111,365)	(2,035,953)	3/
Rehab. to Class 1	(126,617)	(97,606)	(1,784,413)	3/
Rehab. to Class 2	(133,052)	(102,566)	(1,875,092)	3/
K. BN Operation, Lewistown-Denton (plus Alternatives L, M, or N)				
w/o Rehab.	(80,778)	(62,270)	(1,138,407)	3/
Rehab. to Class 1	(72,477)	(55,871)	(1,021,429)	3/
Rehab. to Class 2	(83,587)	(64,435)	(1,177,991)	3/
L. BN Operation, Moccasin-Lewistown (plus Alternatives I or J)				
w/o Rehab.	(11,835)	(9,122)	(166,794)	3/
Rehab. to Class 1	(4,457)	(3,435)	(62,821)	3/
Rehab. to Class 2	(19,270)	(14,854)	(271,576)	3/

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 2/3 - Great Falls to Lewistown to Harlowton (Cont'd)

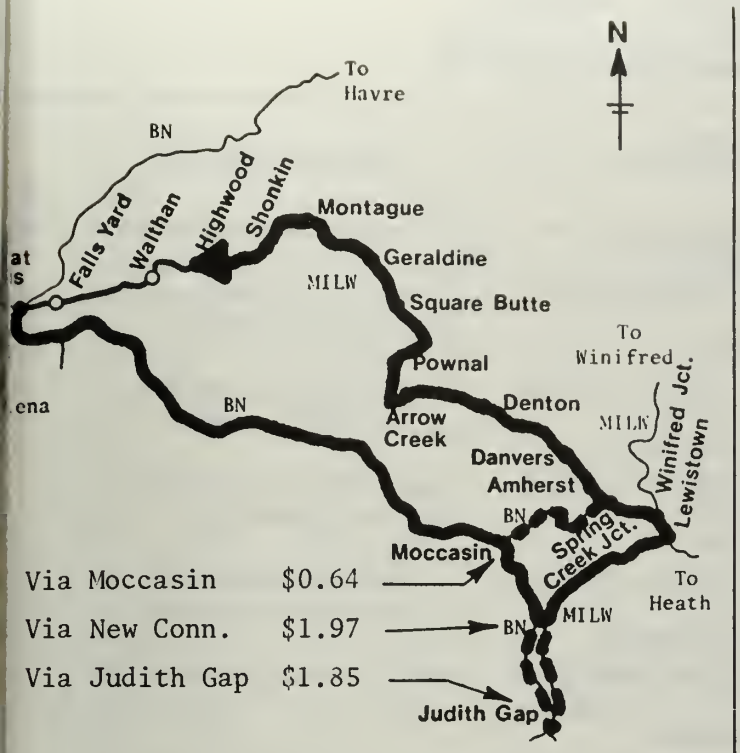
Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2]
Retain Rail Service (No Traffic Growth)				
M. BN Operation, Judith Gap-Lewistown (plus Alternatives I, J, or K)				
w/o Rehab.	(75,880)	(58,495)	(1,069,390)	3/
Rehab. to Class 1	(72,814)	(56,131)	(1,026,176)	3/
Rehab. to Class 2	(104,972)	(80,920)	(1,479,370)	3/
N. BN Operation, New Connection-Lewistown (plus Alternatives I, J, or K)				
w/o Rehab.	(93,093)	(70,518)	(1,289,189)	3/
Rehab. to Class 1	(90,027)	(68,154)	(1,245,975)	3/
Rehab. to Class 2	(113,892)	(87,797)	(1,605,079)	3/

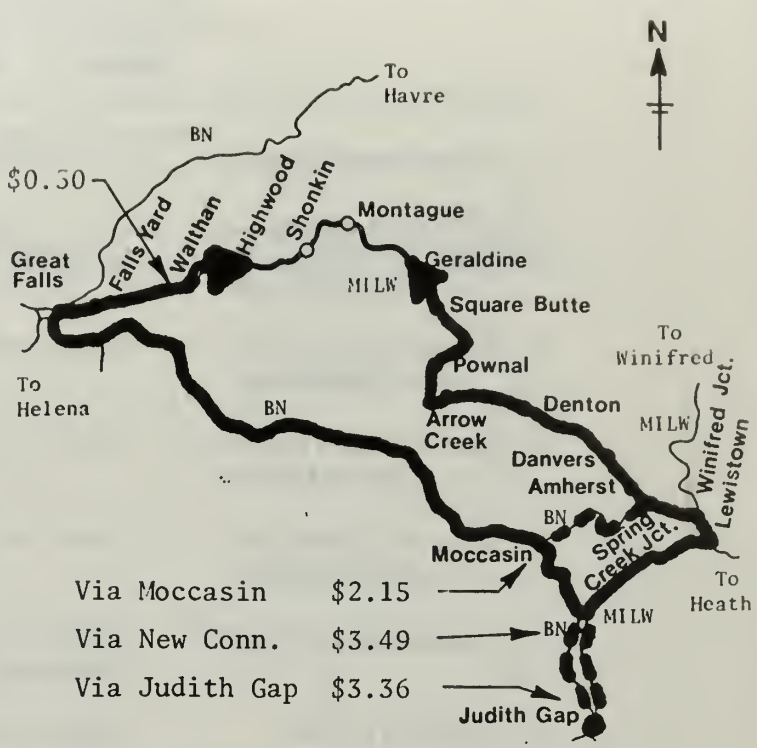
1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Date source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

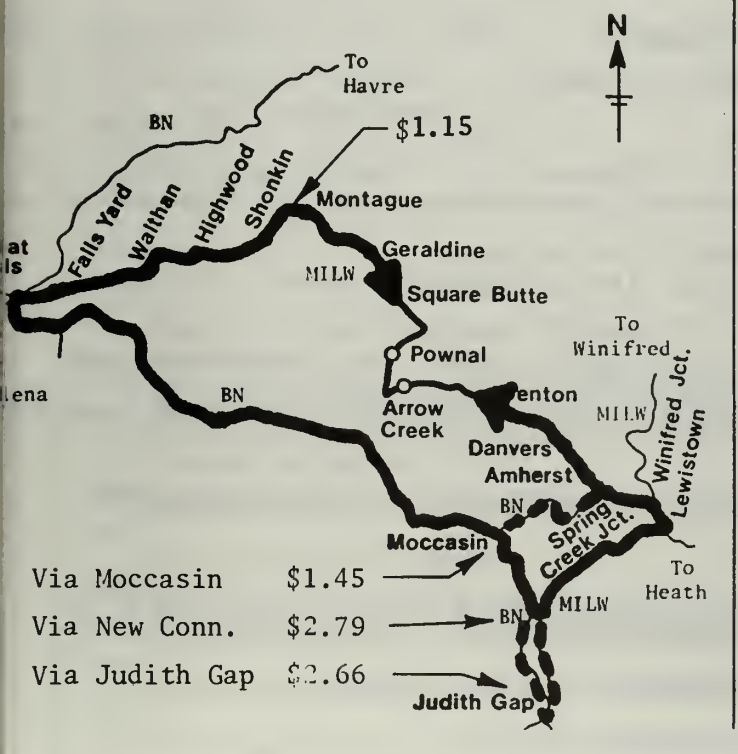
2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

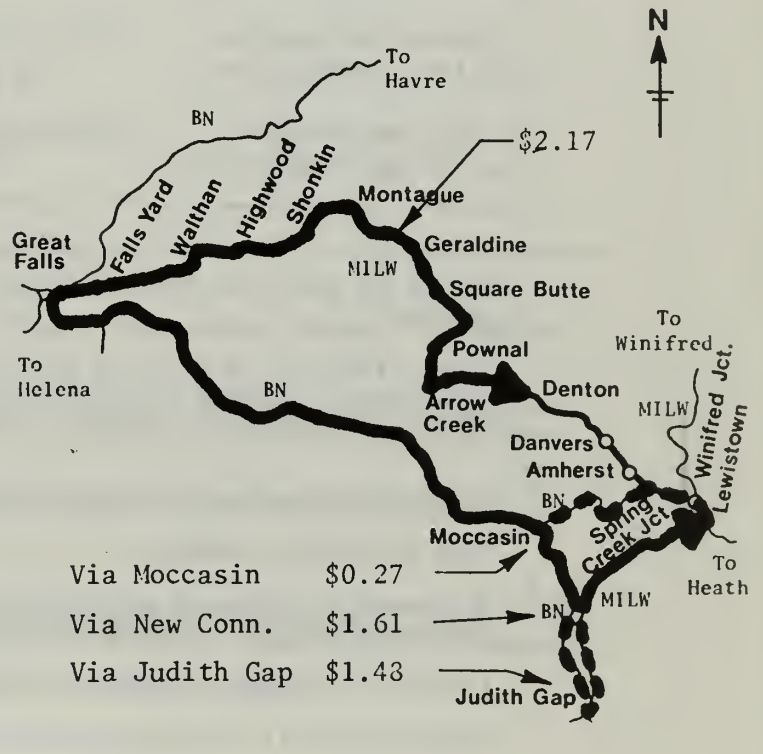
3/ Not applicable, since the line earns a profit under the operating alternative shown.

4/ Inclusion of existing Burlington Northern traffic at Lewistown increases the 4-year profit by $74 or $78 thousand (Class 1 and Class 2 rehabilitation, respectively). Also applies to Alternatives B through E.









Estimated Railroad Profits from Continuing Rail Service ($ millions)
(attributable revenues less avoidable costs expressed as a present value over a four-year period, including rehabilitation to Class 2 track conditions and Burlington Northern operation)

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 2 - Great Falls to Lewistown

Component Impact [1]	Affected Group	Gain/Loss ($000) [2] A	B	C	D	E
1. Wage and Salary Loss in Affected Counties [3]	General Populace	-211	-17	0	0	
2. Offsetting Gains Elsewhere in Montana	Other Counties	+17	+1	0	0	
3. Loss in Local Purchases in Affected Counties	Business Community	-27	0	0	0	
4. Offsetting Gains Elsewhere in Montana	Other Counties	+2	0	0	0	
5. Unemployment Payments	Employers throughout Montana	-156	-17	0	0	
6. Income Tax Loss	State Government	-5	0	0	0	
7. Transport Cost Increase [5]	Shippers	-2,801	--76	-6	0	-1
8. Increased Highway Maintenance & Reconst. Cost	MDH	[4]	[4]	[4]	[4]	
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	+7,418	+1,275	+3,370	+3,196	+3,2
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+2,258	+541	+518	+489	+54

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material .

[2] Present value over a four-year period. Four segments cover: A-entire line, B-Great Falls (excluded) to Highwood (excluded), C-Highwood (excluded) to Geraldine (excluded), D-Square Butte (excluded) to Denton (excluded), and E-Denton (excluded) to Lewistown (excluded).

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 3 - Lewistown to Harlowton

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) A	[2] B
1. Wage and Salary Loss in Affected Counties [3]	General Populace	(-123)	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	(+ 13)	0
3. Loss in Local Purchases in Affected Counties	Business Community	-15	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	+2	0
5. Unemployment Payments	Employers throughout Montana	0	0
6. Income Tax Loss	State Government	-4	0
7. Transport Cost Increase [5]	Shippers	-1,392	-443
8. Increased Highway Maintenance & Reconst. Cost	MDH	[4]	[4]
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	+1,854	+828
10. Opp. Costs Realized through Abandonment [7]	Owning RR	-1,836	+577

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

[2] Present value over a four-year period. Two segments cover: A-entire line (Milw. shippers only at Lewistown) and B- Judith Gap (excluded) to Harlowton (includes public grain warehouse at Harlowton).;

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

secondary highway and 6 percent for the primary route. When completed, these calculations will probably show the need for appreciable capital investment to upgrade Routes 80 and 81 and US 87 and 191 to handle the additional grain trucks. However, the required infrastructure is not the main problem. Without rail to effectively place a ceiling on the rates charged by independent truckers, transport costs are bound to increase partly because the margin for profit provided by present truck rates is very low. While intramodal competition will provide some control over the rates charged, it is unclear how grain public warehouses (and the farmers themselves) will react to the uncertainty and unstability potentially brought about by the loss of rail service and the requirement to move three to four million additional bushels of grain by truck per year.

2. Continue rail service as it has been provided in the past. Unfortunately, the continuation of traditional railroading does nothing to solve the fundamental problems -- uncertain transit times, car shortages, and the obsolete "light" rail which necessitates restricted car loadings. Depending upon the allocation formulas at the national level and the availability of local matching funds, it could take a number of years to complete necessary rehabilitation, which in the end would not create a railroad much different from that existing in the 1940's and 1950's. A continuation of the present modus operendi is not a progressive solution.

3. Continue rail service utilizing an upgraded track structure capable of handling fully-laden 100-ton hopper cars. Under such a concept, small improvements can be made in light density line operations although this in itself does little to improve system transit times and car availability. Replacing existing light rail with heavier relay rail is a far more expensive proposition than simply rehabilitating the line using the existing track; whether required federal and local matching monies would be available is uncertain. The important point is that major public investment in track infrastructure will not significantly reduce railroad operating costs or improve the return on equipment investment or improve car utilization. From an operating standpoint, this alternative introduces no efficiencies of scale and thus is simply a continuation of business-as-usual.

4. Thoroughly investigate the grain subterminal concept and, if workable, implement as a "pilot" terminal for similar facilities to be eventually constructed elsewhere in Montana. The general concept has previously been discussed in Section 11. Its chief virtue is that it does introduce major economies of scale reflected in better utilization of the car fleet (probably dedicated equipment) and more reliable service (use of unit trains, thus eliminating local way freights and the switching operations taking place enroute). It is a concept which is not now in existence anywhere

in Montana. Its practicality rests on (a) being able to pass along significant economic benefits (transport cost savings) to the three principal actors, (b) a willingness on the part of grain terminals to combine together their shipping requirements into unit train quantities bound for a single destination, while retaining their independence and competitiveness in all other areas, and (c) the availability of capital funds to construct a strategically located grain subterminal and make necessary improvements to the highway system to sustain the "collector" trucking required in support of the terminal. This concept is the only long-term, technologically advanced solution possible today. It does require a throughput of at least 100 thousand tons per year, with five thousand ton shipments to single destinations. It probably works best where one carrier enjoys an areawide monopoly on rail service. MDH recognizes the degree of change required to successfully implement such a solution and that institutional inertia is probably the largest hurdle to be overcome. Since in this case, some action has to be taken to ensure the continuation of rail service, this may well be the time to make the required giant leap forward in grain transport.

A complicating factor is whether the Milwaukee remains in business, either in its present form or as some type of successor railroad in the northwest. If the Milwaukee stays, then MDH has little choice other than alternate 1 (some minor consolidation of facilities between the Burlington Northern and the Milwaukee would still be possible). The Milwaukee or successor railroad simply needs all the revenue it can get. If the Milwaukee goes, then Montana has more freedom of action to address the underlying problems. Both the MDH and the Department of Agriculture (MDA) have not had sufficient time to thoroughly investigate the grain subterminal concept -- to perform the micro-economic and transport system analyses necessary to establish whether the concept is economically viable. Equally important are the institutional aspects -- the need to work closely with farmers/farm organizations, grain public warehouse operators, trucking interests, local officials, and railroad personnel to solve the myriad of concerns, problems and complications arising from such drastic change. Thus, both agencies should immediately proceed forward with this study. Until the results are known, the MDH will take whatever action is required to retain rail service at principal generating points along this line. If the grain terminal concept proves feasible, then MDH and MDA will proceed to implement this solution, phasing out rail service along this line only when the subterminal becomes fully operational. If the grain subterminal is not practical or feasible, then the MDH recommends a rationalization of plant and consolidations of facilities, where practical and rehabilitation of the remaining trackage.

The cost of discontinuing rail service (community impacts) for the entire line amount to approximately $1.67 million annually ($1.56 million excluding Great Falls). Most of this is comprised of increases in transport costs. (Abandoning services on portions of the line results in annual costs of $21 thousand for Great Falls to Highwood, $26 thousand for Highwood to Geraldine, $0 for Square Butte to Denton, $58 thousand for Denton to Lewistown, and $217 thousand for Judith Gap to Harlowton.) These estimates are based on the use of elevators in Great Falls in place of those no longer receiving rail service. Were trucks to be used to transport grain all-the-way to its ultimate destination (or a river port for continuing movement by barge), the cost of discontinuing rail service is estimated at $752 thousand annually ($637 thousand excluding Great Falls). The actual cost is likely to be between the two cost estimates.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

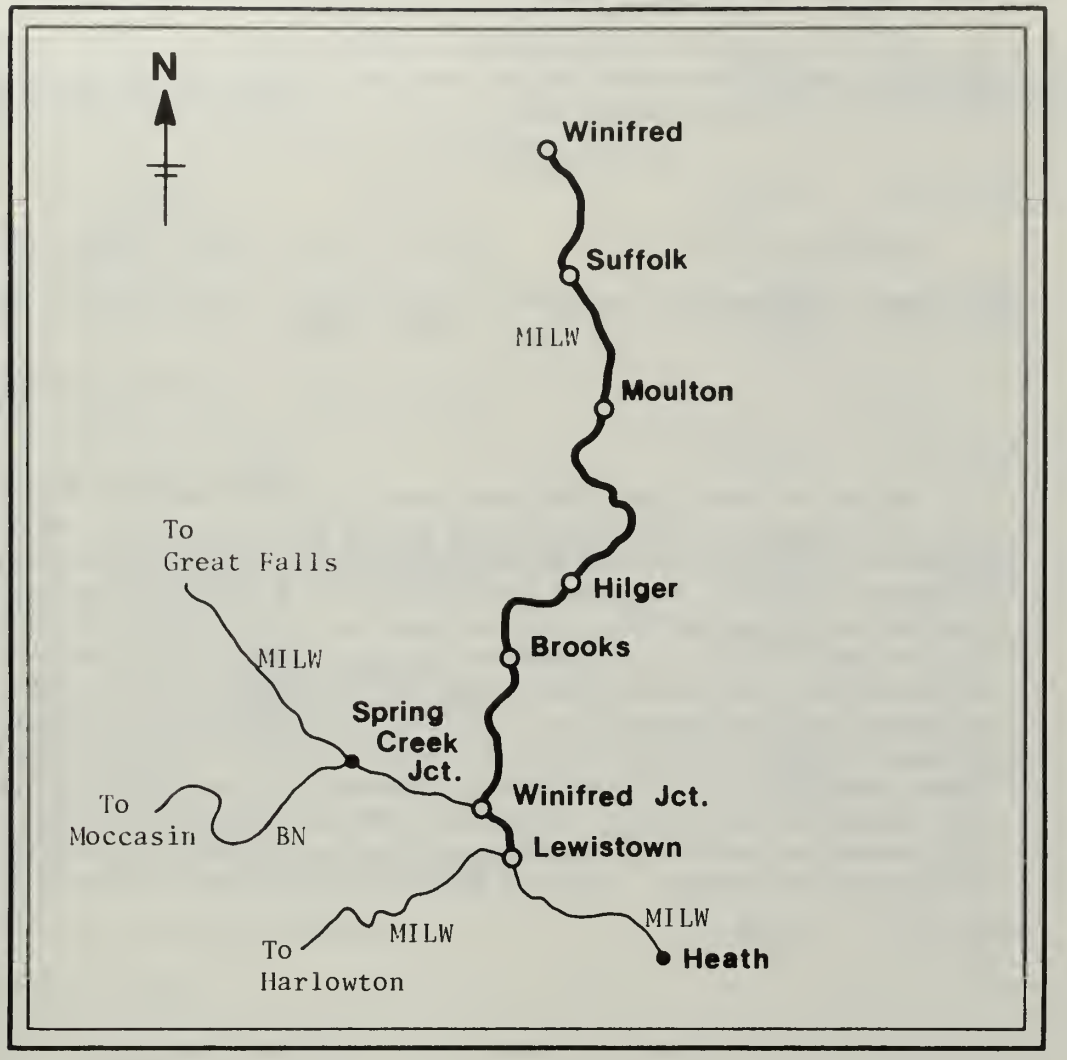
- The line does have economic viability, although a better long-term solution might be a grain subterminal serving this and other lines, rather than a continuation of present light density line rail service.

- The economic impacts of abandonment are severe in terms of potential transport cost increases and highway system impacts.

- Abandonment would cause a major increase in energy use from increased truck volumes.

- Replacement trucking is not now available to "pick up the slack", although with sufficient notice, motor carrier capabilities could probably be increased to required levels.

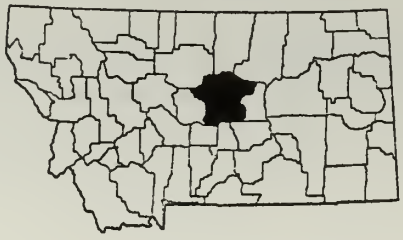
Line 4 Lewistown to Winifred



This line, the 12th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from Winifred Jct. west of Lewistown to Winifred, a distance of 42.7 miles in Fergus County. By application filed September 1, 1978, the Milwaukee Road is seeking authority to abandon the entire line. Consequently, this line is classified as ICC Systems Diagram Category 3 (pending abandonment). The Milwaukee has announced its intention to abandon all lines west of Miles City.

LEGEND

- **Lewistown to Winifred**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The four, rail-oriented firms located along this line reported shipping 148 and receiving eight carloads of the following commodities during 1978 (corresponding data are also shown for 1976 and 1977).[1/]

Commodity Type		1976 Cars	1976 Tons	1977 Cars	1977 Tons	1978 Cars	1978 Tons
Wheat and Barley	Outbound	199	12,736	175	12,392	148	11,137
Fertilizer	Inbound	6	431	7	503	8	529
Total		205	13,167	182	12,895	156	11,666

As can be seen from the above data, traffic has declined over the past three years. This decline is due to the car supply and transit reliability problems being experienced by all elevator operators on the Milwaukee system. The principal shipper is a grain public warehouse located at the end of the line in Winifred. This elevator primarily handles wheat which is shipped to the west coast (55%) and the interior of Washington and Oregon (35%) with minor amounts also destined for Minnesota and Montana markets. So far, rail remains the dominant mode although some diversion has occurred especially within the past two years (combination of truck/barge shipments through Lewiston and back-haul movements by truck). Barley shipments are largely local (Montana) with lesser amounts to Minnesota and the west coast, including interior Washington and Oregon. Over 90 percent of the grain handled is wheat.

1/ Commodity statistics supplied by the Milwaukee. Shippers indicated shipping 160 carloads in 1978 (150 outbound, 10 inbound).

2. REVENUES AND COSTS OF RAIL SERVICE

Attributable Revenues	Base Year[1]	Projected Subsidy Year Operations[2]
1. Freight Originated and/or Terminated On-Branch	$275,817	$313,332
2. Bridge Traffic		
3. Demurrage		
4. All Other	2,037	2,037
5. Total Revenues Attributable	$277,854	$315,369
Avoidable Costs		
6. Off-Branch Costs	$126,270	$154,455
7. On-Branch Costs		
a. Maintenance of Way & Structures	16,698	43,400
b. Maintenance of Equipment	10,633	14,540
c. Traffic	-	-
d. Transportation	26,476	27,822
e. Miscellaneous General	-	-
f. Miscellaneous Operations	-	-
g. Fringe Benefits	4,453	11,574
h. Taxes	1,903	2,162
i. Rent Income	-	-
j. Rent Costs	-	-
k. Bridge Traffic Rerouting	-	-
8. Total Avoidable Costs	$186,433	$253,953
Return on Value		
9. Valuation of Property		
a. Working Capital		$ 9,767
b. Income Tax Benefits		-
c. Net Liquidation Benefits		276,000
d. Total		$285,767
10. Rate of Return		16.68%
11. Total Return on Value		$ 47,666
12. Estimated Subsidy Payment		$(61,416)[3]
(not including rehabilitation)		$(13,750)[4]

1/ July, 1977 through June, 1978.

2/ Milwaukee abandonment application AB-7 (Sub. No. 69F) modified to exclude rehabilitation. Exhibit 8. September 1, 1978.

3/ Out-of-pocket loss (does not include return on value).

4/ Includes return on value.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The Winifred branch was originally constructed in 1912 to 1914 by a Milwaukee predecessor. The track ascends alongside the drainage of Burnette Creek from elevation 3928 at Winifred Junction to elevation 4088 at Hilger. From here, the line descends following the drainage of Dog Creek to the end of the track at Winifred (elevation 3211). The maximum gradient is 1.5% in both directions. There are 62 curves ranging from one to ten degrees.

Original construction was of 60 pound rail except for a 0.9 mile stretch near Winifred. Since then, several short sections have been relaid with heavier rail. The Milwaukee considers the rail worn, but in serviceable condition. Joint bars are considered to be in fair to good condition. Cross ties are a mixture of about half hardwood and half softwood ties ranging from 25 to 30 years in age. The Milwaukee estimates that about a quarter of the ties will have to be replaced over the next five years. Ballast consists of pit run gravel underlying sod. No surfacing has been accomplished since 1962 when six miles was lined and surfaced just north of Winifred Junction. Track line and surface is considered to be fair to good as is the general track condition.

This line was not inspected by MDH. While the Milwaukee timetable shows a maximum speed of 25 mph, it probably only meets FRA Track Class 1 conditions. Maintenance of way expenditures in recent years have been minimal. Extensive rehabilitation is required if service is to be maintained on this line over the long term. The cost of rehabilitating the line over a five-year period has been estimated by the Milwaukee as follows:[1/]

Description	Unit	Quantity	Unit Cost Material	Unit Cost Labor	1st Yr. Cost
Rail Replacement	trk. ft.	4110	$ 5.00	$ 2.55	$ 31,030
Cross-tie Replacement	each	5200	13.00	8.50	111,800
Ballast	cu. yd.	3120	4.30	8.50	40,547
Other Track Material	lot	1	10,360.00	-	10,360
Align and Surface	mile	3.12	-	4,500.00	14,040
Repair Grade Crossings	ft.	160	7.00	8.25	2,430
Bridge and Culvert Work	lot	1	9,150.00	29,800.00	38,950
Weed and Brush Control	mile		175.00	95.00	11,720
Miscellaneous Exp.	-	-	-	-	34,605
Total (including 10% for contingencies)					$325,030

1/ Milwaukee abandonment application AB-7 (Sub. No. 69F), Exhibit 5, Appendix A, September 1, 1978.

Similar rehabilitation costs of $351,032, $379,115, $409,444, and $442,200 are estimated for 1980 through 1983, thus producing a total rehabilitation estimate of $1,906,821 for 42.7 miles of track ($44,656 per mile). The net salvage value of the line is estimated to be $156 thousand and the value of the right-of-way to be $120 thousand.

4. FUTURE FREIGHT SERVICE NEEDS

This line serves, in part, one of the more important wheat producing counties of the state (Fergus County accounted for nearly four percent of the wheat grown in Montana in 1976 and 1977). Several grain public warehouses are located along the line, the largest of which is at Winifred and has a capacity of 103,000 bu. This particular shipper has continued to use rail service almost exclusively for the movement of wheat and barley. Most of the other shippers formerly using the line have apparently made other marketing and transport arrangements. Some of this undoubtedly reflects the uncertain service and difficult car supply problems faced by shippers utilizing the Milwaukee in recent years. Equally important is the fact that the rail rate for grain shipments to the west coast from stations along this line is higher than the rate from Lewistown or stations to the west.[1/] Consequently, the natural tendency is to truck to grain public warehouses enjoying a lower rate. While rail traffic has decreased, the production of grain has remained at traditional levels, weather conditions permitting. While the traffic remains, the incentive to use rail service has declined substantially.

Thus, under the conditions that presently exist, it would appear that there is little long-term need for rail freight service on this line. Declining traffic volumes, car supply and service problems, the obsolescence and condition of the physical plant, the likely availability of continuing rail service at or near Lewistown, and the availability of trucking for local or longer distance grain movements all suggest that the retention of this line is not required to meet future freight service needs.[2/]

One note of caution. Once rail service ceases, there is very little possibility for its future restoration. In the face of changing modal economies and energy dependency, there is no guarantee that area interests will be best served over the long-term by total dependence upon motor carrier transport.

1/ For example, the X-311 tariff rate (¢/cwt) is 139 1/2 from Winifred, 134 from Suffolk, 132 1/2 from Moulton, 131 1/2 from Hilger, and 130 from Brooks as compared with 129 from Lewistown and 125 1/2 from Denton.

2/ In the early 1970's, the Milwaukee abandoned most of its line extending from Lewistown to Grass Range for similar reasons. In this case, the grain rail rate from Grass Range was identical to the rate charged at Winifred. This further suggests the impossibility of retaining traffic in the face of sizeable rate differentials.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on this line account for 0.04 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

Abandonment of this line will have some impact on US191 between Lewistown and Hilger and a major impact on Montana 236 between Hilger and Winifred. The latter, a secondary road, was designed to have a 20-year life expectancy and was constructed in 1961-1963. Termination of rail service would add approximately 1500 grain vehicle annual trips to an average daily traffic of 350 vehicles, of which only a very small proportion are heavy trucks. A grain truck has an average weight of 22,000 pounds and a gross weight (loaded) of nearly 40,000 pounds. Calculations made by the MDH indicate that the design life expectancy of Route 236 would be decreased by 162 days for each year the additional load is carried on the secondary highway or a 44 percent reduction in life expectancy.1/ (The loss in design life expectancy on US191 is estimated to be 22 days for each year the additional load is carried, or a six percent reduction in life expectancy.) The cost of additional surfacing required to carry the increased loadings (roughly three inches of Grade C PMBS plus required seal and cover coats) amounts to approximately $41,600 per centerline mile, or nearly $1.0 million for improving 23 miles of Route 236.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Traffic volumes are insufficient to sustain operations by a short line railroad.

Shippers have generally indicated that they would use both short and long distance trucking for grain movements to the west coast. The former would involve the use of alternate grain public warehouses in or around Lewistown.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line has, in the past, been served on an as-needed basis by one locomotive (an M1500) and a four-man local crew operating out of Lewistown. In 1976 and 1977, 31 and 27 round trips were made on the branchline.2/ Further service reductions to achieve substantial operating economies do not appear to be possible.

1/ See "Impact Analysis of the Proposed Abandonment of the Milwaukee Branchline from Winifred to Winifred Junction," prepared by the Rail Planning Unit, Montana Department of Highways, June 26, 1979.

2/ No information is available on the number of trips made in 1978, although only two were reported during the first six months of 1978.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues are substantially less than avoidable costs.

By application dated September 1, 1978 the Milwaukee is seeking ICC authority to abandon this line. Under recent revisions of the Section 803 Program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used in subsidizing operations, acquisition, rehabilitation or substitute service. (Projects involving acquisition, rehabilitation or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is doubtful whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

No non-rail alternatives other than abandonment have been evaluated.

With regard to continued rail service, four investment options are conceptually possible:

- Retain present rail service without rehabilitation, to the extent that track conditions allow continued operations.
- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.

- Undertake a more extensive on-time rehabilitation to substantially upgrade the track structure so that it could handle modern 100 ton hopper cars. (This alternative has not been evaluated, however.)

- Construct in the general Lewistown area a grain subterminal to allow for the use of unit grain trains. This subterminal would eventually permit the retirement of this and other Milwaukee grain feeder lines. (See the assessment for Lines 2 and 3.)

Coupled with the above investment options are two traffic scenarios:

- No traffic growth.

- Present plus the potential traffic identified in the shippers' survey. (Since there is little potential traffic, this traffic possibility has not been evaluated.)

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, operational, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based upon component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Although Milwaukee records indicate that the line returns a $91 thousand per year profit, this reflects minimal maintenance of way and structures expenditures and no return on investment. Including a higher allowance for maintenance and an appropriate return on investment, the line appears to lose about $145 thousand per year with present traffic (including amortization of Class 1 rehabilitation costs). (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

Besides its unprofitability, other important factors are the general obsolescence and poor physical condition of the track (caused by years of deferred maintenance), which rule out any long-term continuation of rail service as provided by the Milwaukee in the past. The line has changed very little from the time it was built in 1913 with 60 pound rail. While track conditions can be improved through

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 4 -- Lewistown to Winifred

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	11,919	8,269	152,367	
Retain Rail Service				
MILW Operation w/o Rehab.	29,027	21,895	400,274	0.38
Rehab. to Class 1	36,303	27,504	502,813	0.30

1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 4 - Lewistown to Winifred

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-152
8. Increased Highway Maintenance & Reconst. Cost	MDH	-173
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-1,047
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+341

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

[2] Present value over a four-year period.

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

extensive tie renewals and ballasting, this still will not permit the use of fully-laden, 100 ton hopper cars. To achieve this added capability, the rail would have to be replaced with 90 or 100 pound rail. All of this could be done, were the funds available. The Milwaukee has in its abandonment application estimated the cost of rehabilitating the line at $1.9 million and for upgrading the line at $10.0 million. Neither investment can be amortized using present profits or those which could be reasonably expected from more efficient rail operations. This compares with a $1.0 million highway reconstruction investment required were the line abandoned. (In a similar vein, the construction of a grain subterminal cannot be justified on the basis of the traffic volumes generated solely by this line, even though such a solution may represent the best long-term hope for modernizing grain transport. The traffic base simply does not provide sufficient justification for any substantial capital investments.) The relative advantages and disadvantages of the four investment options are summarized below:

	Project Life	Cost		Efficiency		Grain Handling Efficiency
		Operating	Capital	Rail Oper.	Investment	
Retain Present Rail Service	0-5 yr. (at best)	med-high	very low	very low	n/a	poor
Rehab. to Class 1	5 to 10 yrs.	med.	med.	low	low	poor
Upgrade to Class 2	20 to 40 yrs.	low-med.	high	low-med.	very low	mod.
Develop Subterminal	20 to 40 yrs.	low	low	high	high	high

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $44 thousand annually and is comprised solely of increases in transport costs. The ratio of the cost of discontinuing rail service to those of continuing such service (analogous to a benefit-cost ratio is 0.30. Since this ratio is substantially less than 1.0, MDH concludes that the economic benefits achieved are insufficient to warrant the continuation of rail service, if the ICC issues a certificate of public convenience and necessity, thus permitting the abandonment of this line. Other factors affecting this are (1) the primary beneficiary is one public grain warehouse, (2) the magnitude of the rehabilitation expenditures required for this line, and (3) the great need for Section 803 funds on other projects offering a far greater return on the investment of federal and local funds.

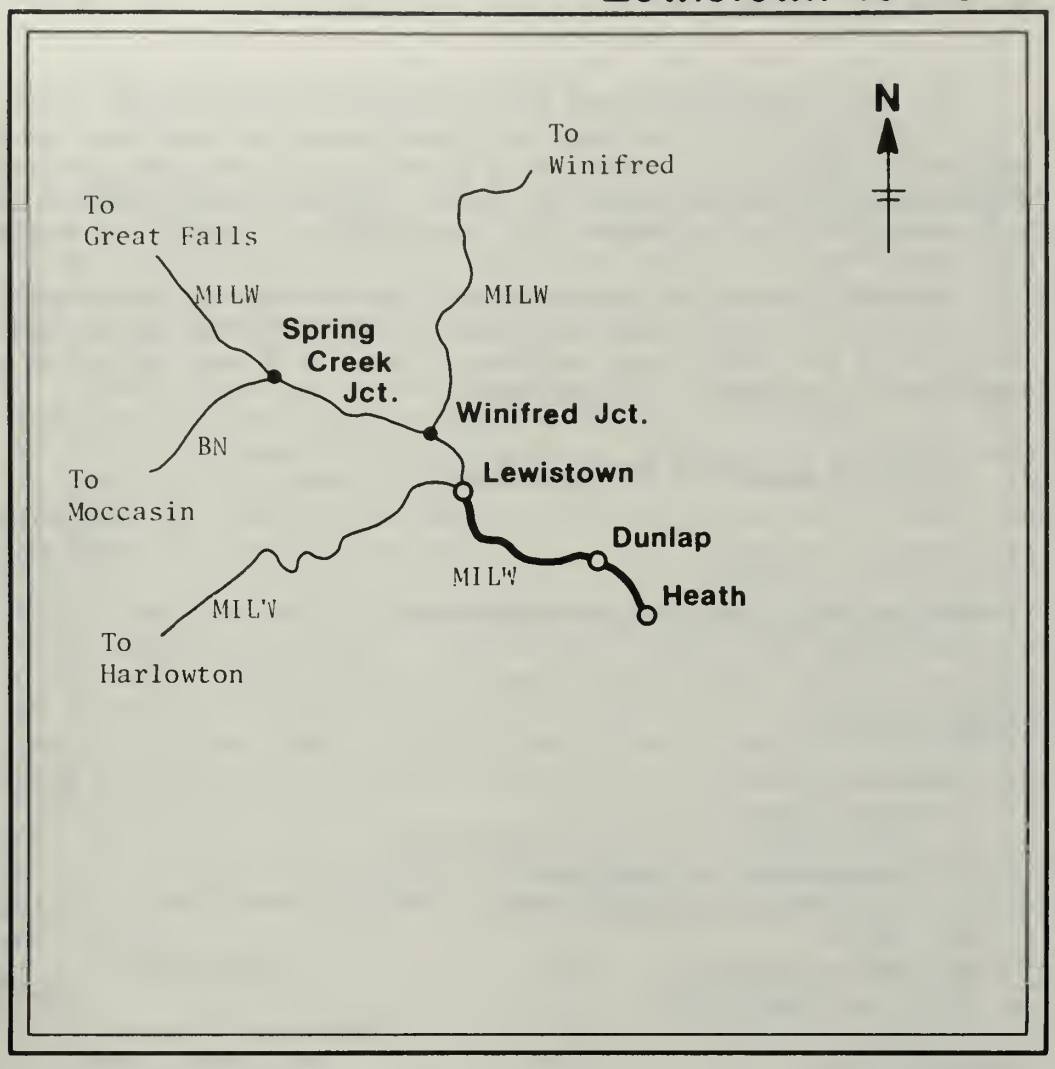
An abandonment application has been filed by the Milwaukee. Since the line appears to be unprofitable and a strong case cannot be made for continuing rail service, the Department will not oppose the abandonment of this line, even though some economic and energy consumption impacts will occur.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line does not have long-term economic viability.
- Little community impact would result from abandonment.
- The line is not essential to the state or regional rail network.
- Alternate modes are available.

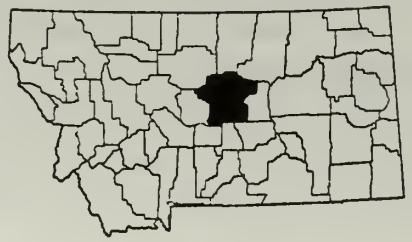
Line 5 Lewistown to Heath



This line, the 11th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from the Lewistown yard to Heath, a distance of 9.2 miles in Fergus County. The line has recently been classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years). The Milwaukee has announced its intention to abandon all lines west of Miles City.

LEGEND

- **Lewistown to Heath**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The single rail-oriented firm located on this line at Heath reported shipping 122 carloads of gypsum board and portland cement rock and receiving 126 carloads of paper used in the manufacture of gypsum board during 1978.[1/] The firm, a gypsum board manufacturer, considers 1978 rail volumes to be substantially higher than normal.

In addition to the above traffic, 36 carloads of scrap metal originated at Dunlap. This one-time traffic represented the salvage of the rail and other track materials from the former extension of the 11th Subdivision to Grass Range.

2. REVENUES AND COSTS OF RAIL SERVICE

	Projected Subsidy Year Operations[2/]
Attributable Revenues	
1. Freight Originated and/or Terminated On-Branch	$197,604
Avoidable Costs	
2. Off-Branch Costs	$110,660
3. On-Branch Costs	
a. Maintenance of Ways & Structures	30,360
b. Maintenance of Equipment	8,120
c. Traffic and Transportation	19,880
d. Taxes	3,864
e. Miscellaneous	1,976
4. Total Avoidable Costs	$174,860
Return on Value	
5. Total Return on Value	$ 16,936
6. Estimated Subsidy Payment	$ (5,808)

1/ Commodity statistics supplied by the Milwaukee. Figures shown are substantially above those reported in the shipper's survey.

2/ MDH Estimates.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The Grass Range branch was originally constructed around 1913 by a predecessor to the present Milwaukee Road. The track ascends along Big Spring Creek from elevation 3986 at the Lewistown Yard to 4410 at Heath. The maximum gradient is 2.0 percent between Dunlap and Heath, and the maximum curvature is 8 degrees.

Examination of the condensed profile supplied by the Milwaukee indicates that the line consists primarily of 75-pound rail installed in 1913 with several short sections of heavier rail. No information is given on when surfacing and lining or tie renewal was last done. Traffic over the line in recent years has been minimal, thus reducing the need for such maintenance.

A physical inspection of the line was conducted by Railway Technology Services, Inc. for the MDH during June 1979 with quantitative data samples being taken at three locations and qualitative spot checks at several additional locations to verify the consistency of track work and conditions. The line was found to be in poor to fair condition with the major deficiencies being the need for tie renewals and ballasting. 1/

The cost of rehabilitating the track to fully meet FRA Track Class 1 conditions to permit 10-15 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	2,606	$23.00	$59,938
Joint Tightening	mile	9.7	288.00	2,794
Turnout Rehab-Frogs	each	14	294.00	4,116
Switch Ties	lin ft	840	8.20	6,888
Light Ballast Dump	cu yd	4,155	6.60	27,423
Spot Tamping	mile	6.6	991.00	6,541
Spraying	mile	9.7	364.00	3,531
Embankment Work	cu yd	4,000	1.10	4,400
Total for 9.7 miles				$115,631
Cost per Mile				$ 11,021

1/ For a more complete report on observed conditions, see pages 29 through 32 of the "Consultant's Report" dated June, 1979 prepared by Railway Technology Services, Inc. for RCAI. This report also describes the method of inspection and the manner in which rehabilitation, maintenance, and salvage value estimates have been prepared.

The cost of rehabilitating the track to fully meet FRA Track Class 2 conditions to permit 20-30 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-Tie Replacement	each	4,841	$23.00	$111,343
Joint Tightening	mile	9.7	288.00	2,794
Turnout Rehab-Frogs	each	14	294.00	4,116
Switch Ties	lin ft	840	8.20	6,888
Light Ballast Dump	cu yd	2,078	6.60	13,715
Full Ballast Dump	cu yd	6,355	6.60	41,943
Surfacing & Lining	mile	9.7	3,172.00	30,768
Spraying	mile	9.7	364.00	4,531
Embankment Work	cu yd	4,000	1.10	4,400
Total for 9.7 miles.				$ 219,498
Cost per Mile				$ 22,629

The total salvage value of the line was estimated to be $216,600. Pick-up costs were estimated to be $133,579 for a net salvage value of $83,021 ($8,559 per mile).

4. FUTURE FREIGHT SERVICE NEEDS

The gypsum board manufacturer views continued rail service as being essential to obtaining sufficient quantities of paper and of appreciable value in shipping the finished product to regional markets. However, a major portion of gypsum board shipments are made by truck, even though present truck rates are 26 ¢/cwt higher than the rail rate on shipments to the west coast. Two factors are involved: (1) the Milwaukee's inability to guarantee a steady supply of rail cars and (2) the presence of a trucking firm adjacent to the gypsum plant.1/ Movements made by rail would shift over to truck were rail service discontinued. The viability of the gypsum board manufacturing plant apparently is little affected by the continuation of rail service.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received over this line account for 0.06 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Traffic volumes are insufficient to sustain operation by a short line railroad.

The impact upon the sole rail-oriented firm of substituting truck is largely one of increased transport costs.

1/ During the recent independent trucker's strike, the plant was forced to close down since it was unable to obtain rail cars on short notice.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served on an as-needed basis by one locomotive (an M1500) and a four-man local crew operating out of Lewistown. Further service reductions to achieve substantial operating economies do not appear to be possible.

Consolidation, pooling, or joint use are not feasible on this line.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues are slightly less than avoidable costs.

No final decision has been made by the Milwaukee as to whether to seek the abandonment of this line, although the Trustee has announced his intention to abandon all lines west of Miles City. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is uncertain whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

Several scenarios for continued rail operations were analyzed. The three investment options considered were:

- Retain present rail service without rehabilitation.
- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.

- Retain present rail service and undertake a one-time rehabilitation to improve the track structure such that it will fully meet FRA Track Class 2 standards for at least ten years.

In addition, two ownership options were also evaluated.

- Continued ownership and operation by the Milwaukee.
- Ownership and operation by the Burlington Northern.

Along with the above investment and ownership options, two traffic scenarios are also possible:

- Base year traffic (no traffic growth).
- Base year plus the potential traffic identified in the shippers' survey (not evaluated).

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, ownership, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Based on MDH calculations (Milwaukee records were not available for this line), the line appears to lose about $4 thousand per year with present traffic, (including amortization of Class 1 rehabilitation costs).[1/] Under Burlington Northern operation, the line would appear to lose $3 thousand under the same conditions. (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $3 thousand annually and is comprised solely of increases in transport costs. The ratio of the costs of discontinuing rail service to those of continuing such service (analogous to a benefit-cost ratio) is 0.3. Since this ratio is less than 1.0, MDH concludes that the economic benefits achieved may not be sufficient to warrant the continuation of rail service, assuming that the Milwaukee will seek the abandonment of this line. Other

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1/ Excluding rehabilitation costs, the line would return a $6 thousand per year profit.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 5 - Lewistown to Heath

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	929	644	11,873	
Retain Rail Service				
A. MILW Operation				
w/o Rehab.	(1,428)	(1,101)	(20,122)	3/
Rehab. to Class 1	1,063	820	14,986	0.79
Rehab. to Class 2	3,325	2,563	46,856	0.25
B. BN Operation				
w/o Rehab.	(1,656)	(1,277)	(23,338)	3/
Rehab. to Class 1	835	644	11,770	1.01
Rehab. to Class 2	2,822	2,175	39,768	0.30

1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternate shown.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 5 - Lewistown to Heath

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-12
8. Increased Highway Maintenance & Reconst. Cost	MDH	4/
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-15
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+165

1/ Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

2/ Present value over a four-year period. Milwaukee operation.

3/ Represents primary and secondary wage loss less any increases in local trucking employment.

4/ Data not presently available.

5/ Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

6/ Continued operation as at present with rehabilitation to Class I standards.

7/ Net salvage value invested at nine percent interest for four years.

factors affecting this are (1) the primary beneficiary is one firm, (2) the magnitude of the rehabilitation expenditures required for this line, and (3) the great need for Section 803 funds on other projects offering a far greater return on the investment of federal and local funds.

The Department anticipates that an abandonment application will shortly be filed by the Milwaukee. Since the line appears to be marginal and a strong economic or social case cannot be made for continuing rail service, the Department will not oppose the abandonment of this line.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line does not have long-term economic viability.
- The economic impacts of abandonment are small.
- Little community impact would result from abandonment.
- Abandonment causes only very small changes in energy use and environmental factors.
- The line is not essential to the state or regional rail network.
- Alternative modes are available.

Line 6 Moccasin to Lewistown

This line, the 11th Subdivision of the Burlington Northern's Montana Division, extends from Moccasin (on the BN's 5th Subdivision Main Line) to Lewistown, a distance of 30.7 miles in Judith Basin and Fergus Counties. Between Lewistown and Spring Creek Jct. (a distance of 9.2 miles), the BN has trackage rights over the Milwaukee's 13th Subdivision. The line is currently classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years).

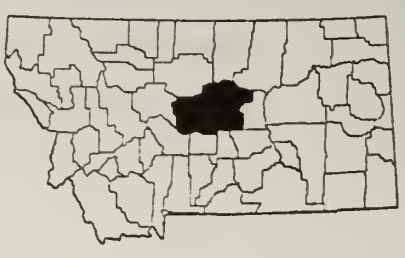
LEGEND

Mocassin to Lewistown

Other Lines

Freight Station

Other Station



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The five rail-oriented firms located along this line reported shipping five and receiving 25 carloads of the following commodities during 1978.1/

Commodity Type		Carloads	Tons
Farm Equipment	Inbound	21	540
Scrap Metal	Outbound	5	335
Beer	Inbound	4	268
		30	1023

Worksheet I summarizes the line and shipper characteristics. Shippers utilizing Burlington Northern rail service are all located in Lewistown. They include three agricultural equipment dealers, a scrap metal dealer, and a beverage distributor.

1/ Commodity flow data supplied by the shippers located on this line. The Burlington Northern reported the following traffic in 1977 and 1978.

	1977		1978	
	Carloads	Tons	Carloads	Tons
Inbound	144	6631	100	6956
Outbound	20	1270	43	2071
Total	164	7901	143	9027

Some of the difference between that reported in the shippers' survey and Burlington Northern records may be attributable to grain shipments originating from the three grain public warehouses in Lewistown also served by the Milwaukee. It is also possible that several shippers were inadvertently missed in conducting the shippers' survey.

2. REVENUES AND COSTS OF RAIL SERVICE

Attributable Revenues	Year 1977[1/]	Projected Subsidy Year Operations[2]
1. Freight Originated and/or Terminated On-Branch	$ 110,349	$ 119,490
2. Switching	531	
3. Demurrage	20	
4. All Other	5,639	6,710
5. Total Revenues Attributable	$ 116,539	$ 126,200
Avoidable Costs		
6. Off-Branch Costs	$ 51,461	$ 55,600
7. On-Branch Costs		
a. Maintenance of Way & Structures	30,705	30,700
b. Maintenance of Equipment	7,013	7,600
c. Traffic	-	-
d. Transportation	57,654	62,300
e. Miscellaneous General	-	-
f. Miscellaneous Operations	-	-
g. Fringe Benefits	16,598	17,900
h. Taxes	-	-
i. Rent Income	2,214	2,400
j. Rent Costs	-	-
k. Bridge Traffic Rerouting	-	-
8. Total Avoidable Costs	$ 161,217	$ 176,500
Return on Value		
9. Valuation of Property		
a. Working Capital		$ 6,800
b. Income Tax Benefits		(29,700)
c. Net Liquidation Benefits		344,900
d. Total		$ 322,000
10. Rate of Return		19.30%
11. Total Return on Value		$ 62,100
12. Estimated Subsidy Payment (not including rehabilitation)		$ 112,400

1/ Burlington Northern railroad estimates prepared by the Costs & Statistics Division, Finance Department, July 26, 1978.

2/ MDH Estimates.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The 11th Subdivision of the Burlington Northern's Montana Division (a former Great Northern Branch) is a single track line with passing sidings at Kolin and Hanover. The line descends approximately 400 feet at a grade of 0.6% compensated from Moccasin to the Judith River, and further descends in elevation until Spring Creek is reached. From Spring Creek to Lewistown, ascends approximately 200 feet at a grade of approximately 1.0 %. From Moccasin to Kolin and Hanover to Lewistown, the maximum speed is 35 mph. From Kolin to the Spring Creek Junction, speeds are limited to 25 mph. Speeds over the Spring Creek viaduct are restricted to 15 mph. Between Spring Creek and Lewistown, the line is owned and operated jointly by the Burlington Northern and the Milwaukee, with the Milwaukee having maintenance responsibility. The Burlington Northern does own outright the industrial tracks in Lewistown.

A physical inspection of the line was conducted by Railway Technology Services, Inc. for the MDH during June, 1979 with quantitative data samples being taken at five locations and qualitative spot checks at several additional locations to verify the consistency of track work and conditions. The line was found to be in poor to fair condition with the major deficiencies being the need for tie renewals and ballasting.[1/]

The cost of rehabilitating the track to fully meet FRA Track Class 1 conditions to permit 10-15 mph maximum operating speed is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	1,002	$ 23.00	$ 23,046
Joint Tightening	mile	21.4	288.00	6,163
Switch Ties Repl.	lin ft	432	8.20	3,542
Shoulder Ballast Dump	cu yd	10,260	6.60	67,716
Spot Tamping	mile	15	991.00	14,865
Spraying	mile	21.4	364.00	7,790
Total for 21.4 miles				$123,122
Cost per Mile				$ 5,753

1/ For a more complete report on observed conditions, see pages 33 through 37 of the "Consultant's Report" dated June, 1979 prepared by Railway Technology Services, Inc. for RCAI. This report also describes the method of inspection and the manner in which rehabilitation, maintenance, and salvage value estimates have been prepared.

The cost of rehabilitating the track to fully meet FRA Track Class 2 conditions to permit 20-30 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-Tie Replacement	each	2,404	$ 23.00	$ 55,292
Joint Tightening	mile	21.4	288.00	6,163
Switch Ties Repl.	lin ft	432	8.20	3,542
Shoulder Ballast Dump	cu yd	10,260	6.60	67,716
Light Ballast Dump	cu yd	5,318	6.60	35,099
Surfacing & Lining	mile	21.4	3,172.00	67,881
Spraying	mile	21.4	364.00	7,790
Total for 21.4 miles				$243,483
Cost per Mile				$ 11,378

No cost estimate has been developed for rehabilitating the Spring Creek structure. The physical inspection conducted by Railway Technical Services, Inc. did not identify any obvious deficiencies that would necessitate spending several million dollars in rehabilitating the structure, as reported by the owning railroad.

The total salvage value of the line was estimated to be $547,498. Pick-up costs were estimated to be $294,699 for a net salvage value of $252,799 ($11,813 per mi).

4. FUTURE FREIGHT SERVICE NEEDS

Based on the location of shippers served by this line, the need is for continued rail freight service at Lewistown. Since Lewistown can be served by any one of three different lines, retention of the Moccasin-Lewistown line is not required so long as service is retained on at least one of the other lines. (See the assessments for Line #2 and Line #3). The amount of rail traffic generated at Lewistown is not great enough to require service by two different carriers.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received over this line account for 0.01 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Present shippers can be easily served via the Milwaukee's lines into Lewistown. Present traffic volumes are insufficient to justify retention of this line as long as service is provided into Lewistown by the Milwaukee (or over Milwaukee tracks).

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served on an as-needed basis by one locomotive (a GP-9) and a four-man local crew operating out of Great Falls. Further service reductions to achieve substantial operating economies can only be achieved by discontinuing competitive rail service. Thus a consolidation of operations is a feasible solution.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

While the number of carloads and revenue is not large, the addition of such traffic to that already handled by the Milwaukee at Lewistown would assist in maintaining the viability of Milwaukee lines in the Lewistown area.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THIS LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues are substantially less than avoidable costs.

No decision has been made by the Burlington Northern as to whether to seek the abandonment of this line. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

It is quite possible that MDH will seek federal financial assistance to rehabilitate one rail line into Lewistown (see the assessment for Line #3). While it is possible that the Moccasin-Lewistown line might be selected for this purpose, the more likely choice is the Milwaukee's Judith Gap-Lewistown Line. Retention of, or improvement of parallel lines is inappropriate. At this point, it is highly doubtful that the MDH would seek federal financial assistance for this line. (see Section 12 for a more detailed discussion of the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

Rail service consolidation with the Milwaukee represents the only alternative evaluated. See the assessment for Lines #2 and #3.

In regard to continued rail service by the Burlington Northern, the investment options considered for this line were:

- Retain present rail service without rehabilitation.
- Retain present rail service and undertake a one-time rehabilitation to improve track structure such that it will fully meet FRA Track Class 2 standards for at least five years.
- Retain present rail service and undertake a one-time rehabilitation to improve the track structure such that it will fully meet FRA Track Class 2 standards for at least ten years.

Along with the above investment options, two traffic scenarios are possible.

- No traffic growth.
- Present traffic plus potential traffic, as identified in the shipper's survey. (Since there is little potential traffic, this possibility has not been evaluated.)

The results from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, operational and traffic growth possibilities.

Worksheet VIII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based upon component calculations made in determining the cost of discontinuing rail service.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 6 - Moccasin to Lewistown

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	2,687	1,860	34,346	
Retain Rail Service				
A. BN Operation (BN traffic)				
w/o Rehab.	44,121	34,013	621,800	0.06
Rehab. to Class 1	51,499	39,700	725,773	0.05
Rehab. to Class 2	60,327	46,505	850,185	0.04
B. BN Operation (BN and MILW traffic)				
w/o Rehab.	(11,835)	(9,122)	(166,794)	3/
Rehab. to Class 1	(4,457)	(3,435)	(62,821)	3/
Rehab. to Class 2	(19,270)	(14,854)	(271,576)	3/

1/ Parenthesis indicates revenues exceed costs; hence alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternative shown.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 6 - Moccasin to Lewistown

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss [3] in Affected Counties	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-34
8. Increased Highway Maintenance & Reconst. Cost	MDH	4/
9. Attributable Revenues [6] Less Avoidable Costs	Shippers or Owing RR	-726
10. Opp. Costs Realized through Abandonment [7]	Owning RR	-464

1/ Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

2/ Present value over a four-year period. Includes BN shippers only at Lewistown.

3/ Represents primary and secondary wage loss less any increases in local trucking employment.

4/ Data not presently available.

5/ Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

6/ Continued operation as at present with rehabilitation to Class I standards.

7/ Net salvage value invested at nine percent interest for four years.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

The decision comes down to which carrier and rail line should be used in providing continuing rail service to Lewistown. Normally, this would be the carrier having the greatest share of the business, which in this case, would be the Milwaukee. However, in view of the Milwaukee's announced intentions to discontinue its operations west of Miles City, continued service by the Burlington Northern over this line may be necessary to ensure continued rail service into Lewistown.

The choice of which line to use in providing continued rail service depends upon (1) whether the Burlington Northern or the Milwaukee is to provide continuing service to the Lewistown market, (2) the cost of rehabilitating the various lines providing access to Lewistown, (3) the connections to the rail system and the operating efficiency of one line versus another, and (4) acquisition costs if the line selected is not presently owned by the carrier providing continuing service. If the Milwaukee turns out to be the remaining carrier, then no economic need exists for retaining the Moccasin-Lewistown rail line. If the Milwaukee seeks to pull out of the Lewistown area entirely, and assuming a willingness on the part of the Burlington Northern to serve the Lewistown market, then the decision comes down to whether acquisition of a portion of the Milwaukee's Harlowton-Lewistown line (from Judith Gap or a point further north where a new connection could be constructed between the Milwaukee tracks and the 5th Subdivision, Montana Division of the Burlington Northern) plus rehabilitation costs plus the cost of a new connection is less than rehabilitation of the Moccasin-Lewistown line or is better for operational reasons. Use of the Milwaukee line would eliminate the need to cross the Spring Creek structure to serve Lewistown.

Based on MDH calculations, the line appears to lose about $210 thousand with present traffic, (including amortization of Class 1 rehabilitation costs). Including Milwaukee traffic, the line would appear to return a profit of $18 thousand per year under the same conditions. (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $10 thousand annually and is comprised solely of increases in transport costs. The ratio of the costs of discontinuing rail service to those of continuing such service (analogous to a benefit-cost ratio) is 0.05. Since this ratio is substantially less than 1.0, no economic basis exists for continuing competitive rail service on this line.

The Department will support the abandonment of this line provided that permanent arrangements are made to serve Lewistown by another carrier or the Burlington Northern operating over Milwaukee trackage.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

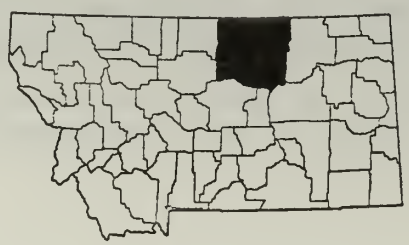
- The line by itself does not have long-term economic viability.
- The economic impacts of abandonment are small.
- Little community impact would result from abandonment.
- Abandonment causes only very small changes in energy use and environmental factors.
- The line per se is not essential to the state or regional rail network.
- Alternative modes are available.

Line 7 Hogeland to Saco

This line, the 7th Subdivision of the Burlington Northern's Montana Division, extends from Saco (on the BN's 1st Subdivision Main Line) to Hogeland, a distance of 79.3 miles in Phillips and Blaine Counties. The line is currently classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years).

LEGEND

- **Hogeland to Saco**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The twelve rail-oriented firms located along this line reported shipping approximately 277 carloads (18,560 tons) of barley and wheat to the west coast during 1978.[1/] Of this traffic, approximately 35 percent originated at Hogeland, 20 percent at Turner, 15 percent at Loring, and 30 percent at Whitewater. A decline in the volume of grain handled by grain public warehouses located along this line is thought to have occurred in recent years. The underlying cause is tariff differences between branchline stations and corresponding stations on the hi-line, which reflects the greater short line mileage from stations

Branchline Station	X-311 Rate	Corresponding Mainline Sta.	X-311 Rate	Cost Difference
Hogeland	160¢/cwt	Harlem[2/]	139 1/2¢/cwt	20 1/2¢/cwt
Turner	160¢/cwt			
Loring	160¢/cwt	)		
Whitewater	160¢/cwt	) Malta	150 1/2¢/cwt	9 1/2¢/cwt

on the Hogeland-Saco line to the west coast as compared with the mileage from hi-line stations. Efforts made by the Montana Department of Agriculture before the ICC to have rate differences reduced or eliminated have so far been unsuccessful. In addition, a number of former public grain warehouses have in recent years been sold to individuals or firms using the elevators for private grain storage. This is indicative of the fact that grain public warehouses cannot successfully compete with similar facilities located along the hi-line on account of the tariff differentials.

In past years, most of the wheat was shipped to the west coast (15%), the interior of Washington and Oregon (65%) or locally in Montana (20%). Barley shipments have been made to destinations on the west coast and in Montana.

1/ Commodity flow data supplied by the shippers located on this line.

2/ Another possibility is Dodson, which has an X-311 rate of 149 1/2¢/cwt and a cost difference of 10 1/2¢/cwt. This is only half the savings possible through using elevators at Harlem.

2. REVENUES AND COSTS OF RAIL SERVICE

Attributable Revenues	Year 1977 1/	Projected Subsidy Year Operations 2/
1. Freight Originated and/or Terminated On-Branch	$ 422,681	$ 457,696
2. Switching		
3. Demurrage	150	
4. All Other	3,053	3,504
5. Total Revenues Attributable	$ 425,884	$ 461,200
Avoidable Costs		
6. Off-Branch Costs	$ 199,934	$ 215,900
7. On-Branch Costs		
a. Maintenance of Way & Structures	78,716	79,300
b. Maintenance of Equipment	15,310	16,500
c. Traffic	-	-
d. Transportation	88,366	95,400
e. Miscellaneous General	-	-
f. Miscellaneous Operations	-	-
g. Fringe Benefits	27,815	30,000
h. Taxes	-	-
i. Rent Income	-	-
j. Rent Costs	-	-
k. Bridge Traffic Rerouting	-	-
8. Total Avoidable Costs	$ 410,141	$ 437,100
Return on Value		
9. Valuation of Property		
a. Working Capital		$ 16,800
b. Income Tax Benefits		(76,700)
c. Net Liquidation Benefits		971,200
d. Total		$ 911,300
10. Rate of Return		19.30%
11. Total Return on Value		$ 175,900
12. Estimated Subsidy Payment (not including rehabilitation)		$ 151,800

1/ Burlington Northern railroad estimates prepared by the Costs & Statistics Division, Finance Department, July 26, 1978.

2/ MDH Estimates.

3. CONDITION OF PLANT EQUIPMENT AND FACILITIES

The 7th Subdivision of the Burlington Northern's Montana Division (a former Great Northern branch originally constructed in 1928) is a single track line with a passing siding at Cole. The line runs through rolling terrain ascending approximately 950 feet before reaching the end of the line at Hogeland. Maximum gradient generally is one percent or less and maximum curvature, (with the exception of one curve) is five degrees or less. Maximum speed is 25 mph (except for a short 15 mph stretch near the Blaine-Phillips County line).

Examination of condensed profiles supplied by the Burlington Northern indicates that the line consists of second-hand 75 to 80 pound rail installed in 1928. No information is given on when surfacing and lining and tie renewal was last done, although the Department understands that some rehabilitation work was done by the Burlington Northern in 1978. Traffic over the line in recent years has been minimal, thus reducing the need for such maintenance.

This line was not inspected by the MDH. Given the 25 mph maximum speed, the line apparently meets FRA Track Class 2 conditions. Major rehabilitation would not be required for the continued operation of this line (some localized tie replacement might be required, however).

4. FUTURE FREIGHT SERVICE NEEDS

If a finding were to be reached based on present rate structures and the changes apparently taking place in the marketing and transport of wheat, there would appear to be little long-term need for rail freight service on this line. Grain that formerly utilized public grain warehouses along this line has simply shifted to elevators located along the hi-line.

Continuation of present trends will ultimately result in (a) cessation of rail service on the light density line and (b) increased dependence upon trucking to haul the grain to public warehouses located on the hi-line. Were this to take place, a concommitant requirement would be sufficient intramodal competition so as to insure maintenance of reasonable and stable local trucking rates to the farmer. Since the trucking would most likely be provided by individual owner/operators or grain dealers whose rates are unregulated, protection would depend solely on the presence of sufficient competition. Rail service will still be required to move the grain produced in the tributary area (of the light density line) to west coast markets. If this can be done more efficiently via mainline service supplemented by local trucking, then this should be the long-term solution.

Whether such a course of action is truly in Montana's long-term interest needs to be carefully considered. Once rail service ceases, there is very little possibility for its future restoration. In the face of changing modal economies and energy dependency, there is no guarantee that area interests will be best served over the long-term by increasing its dependence upon motor carrier transport. On the other hand, there is a very great need to restructure grain movements, bringing into being the efficiencies of scale made possible by the 100-ton covered hopper and the unit grain train. This cannot be done while at the same time preserving in pertuity the rail feeder system established in the early 1900's.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on this line account for 0.06 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Present traffic volumes are insufficient to sustain operation by a short line railroad.

Shippers have generally indicated that they would use trucking to hi-line elevators for grain movements to the west coast.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served twice a week by one locomotive (a GP-9) and a four-man local crew operating out of Glasgow. Further service reductions to achieve substantial operating economies do not appear to be possible.

Consolidation, pooling, or joint use are not feasible on this line.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues are less than avoidable costs.

No decision has been made by the Burlington Northern as to whether to seek the abandonment of this line. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is doubtful whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

In regard to continued rail service, the only investment option considered is to retain present rail service without rehabilitation. Only one traffic scenario (present traffic) has been evaluated.

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, operational, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based upon component calculations made in determining the cost of discontinuing rail service.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 7 - Hogeland to Saco

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	26,514	18,395	338,938	
Retain Rail Service				
BN Operation w/o Rehab.	71,316	54,976	1,005,051	0.34

1/ Parenthesis indicates revenues exceed costs; hence alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 7 - Hogeland to Saco

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-339
8. Increased Highway Maintenance & Reconst. Cost	MDH	4/
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-1,005
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+1,199

1/ Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

2/ Present value over a four-year period.

3/ Represents primary and secondary wage loss less any increases in local trucking employment.

4/ Data not presently available.

5/ Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

6/ Continued operation as at present with rehabilitation to Class 1 standards.

7/ Net salvage value invested at nine percent interest for four years.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Although Burlington Northern records indicate that the line returns a $15 thousand per year profit, this reflects minimal maintenance of way and structures expenditures and no return on the investment. Including a higher allowance for maintenance and an appropriate return on investment, the line appears to lose about $290 thousand per year with present traffic. (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $98 thousand annually and is comprised solely of increases in transport costs. The ratio of the cost of discontinuing rail service to continuing such service (analogous to a benefit-cost ratio) is 0.34. Since this ratio is substantially less than 1.0, MDH concludes that the economic benefits achieved are insufficient to warrant the continuation of rail service, if the Burlington Northern should seek the abandonment of this line. In view of the need for Section 803 funds on other projects offering a far greater return on the investment of federal and local funds, MDH is not optimistic that rail service can be retained on this line over the long term.

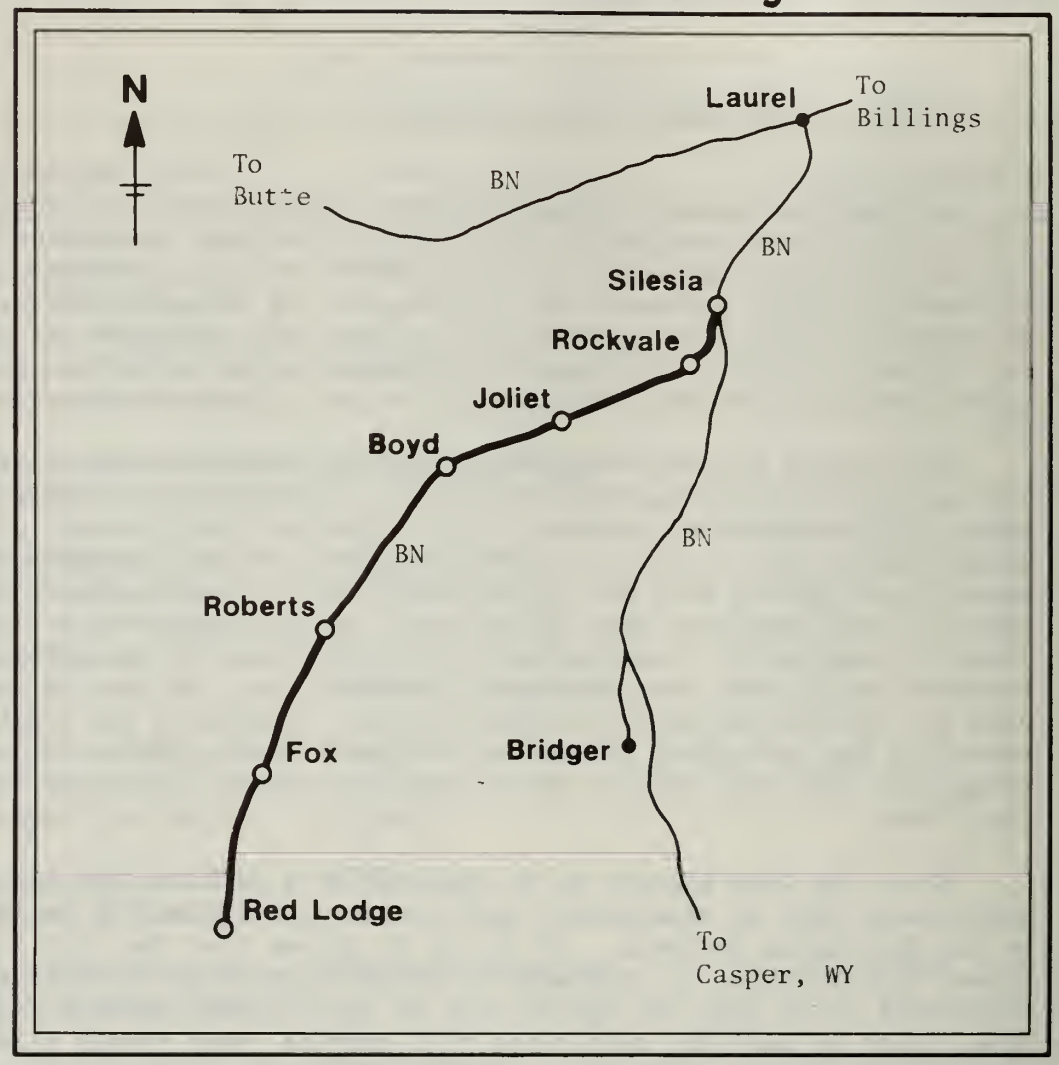
Since the line appears to be operated at a deficit, the Department anticipates that an abandonment application will ultimately be filed by the Burlington Northern. If it can be proven that the line is indeed unprofitable, as indicated by actual branchline accounts,the Department would then not oppose such an application, since a strong case cannot be made for continuing rail service, even though sizable economic and energy consumption impacts will occur.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line does not have long-term economic viability.
- Little community impact would result from abandonment.
- The line is not essential to the state or regional rail network.
- Alternative modes are available.

Line 8 Red Lodge to Silesia



This line, the 9th Subdivision of the Burlington Northern's Rocky Mountain Division, extends from Silesia (on the BN's 7th Subdivision Main Line) to Red Lodge, a distance of 34.5 miles in Carbon County. By application filed May 18, 1978, the Burlington Northern is seeking authority to abandon the entire line. Consequently, this line is classified as ICC Systems Diagram Category 3 (pending abandonment).

LEGEND

- Red Lodge to Silesia
- Other Lines
- Freight Station
- Other Station

1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

Rail-oriented firms located along this line reported shipping 14 and receiving 23 carloads of the following commodities during the first nine months of 1978 (corresponding data are also shown for 1975, 1976, and 1977).[1/]

	1975		1976		1977		1978(Jan.-Sept.)	
Commodity Type	Cars	Tons	Cars	Tons	Cars	Tons	Cars	Tons
Outbound								
Barley			3	246				
Canned Peas	17	866	21	1,107				
Empty Barrels	1	2						
Wheat	23	2,160	28	2,677			14	1,168
Wooden Pallets	2	36						
Wool-in-Grease	2	30			1	20		
Inbound								
Animal & Poultry Feed	1	30	1	33				
Barley	1	83						
Cross Arms	1	29						
Empty Cans	24	290						
Fertilizer	8	725	13	1,253	15	1,462	21	2,034
Mineral Wool	3	38			2	24	1	9
Machinery	2	25					1	29
Petroleum Products	1	30	2	48	1	30		
Poles	5	187						
Electric Cable	1	35						
Salt	2	103						
Total	94	4,669	68	5,364	19	1,536	37	3,240

As can be seen from the above data, traffic declined in 1976 and 1977 and increased somewhat in 1978. The decline is due to (1) the closing of the Red Lodge Canning Company in late 1975, and (2) federal grain storage programs which have had the effect of withholding grain from markets for a three-year period. The traffic volumes shown represent minimal traffic on a 34.5 mile line. The primary shipper is a feed and grain dealer located at Red Lodge and Roberts. The use of rail service by this shipper has fluctuated considerably in recent years; less than half of grain shipments have gone by rail between 1976 and 1979. Of the rail shipments made, all were destined to the west coast or the interior of Oregon and Washington. During this period truck shipments were likewise made to these same destinations plus Idaho and locally in Montana. Although rail shipments apparently increased considerably in 1978 and 1979, the circumstances surrounding this modal change are unknown.

1/ Commodity statistics supplied by the Burlington Northern. See abandonment application AB-6 (Sub. No. 52F), verified statement of Robert E. Taylor, Jr., Exhibit No. 5.

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1977[1]	Jan.-Sept. 1978[1]	Projected Subsidy Year Operations[2]
Attributable Revenues			
1. Freight Originated and/or Terminated On-Branch	$21,369	$45,372	$22,348[3]
2. Bridge Traffic	-	-	-
3. Demurrage	-	-	-
4. All Other	6,467	6,286	6,467
5. Total Revenues Attributable	$27,836	$51,658	$28,815
Avoidable Costs			
6. Off-Branch Costs	$ 8,451	$18,200	$ 8,838[3]
7. On-Branch Costs			
a. Maintenance of Way & Structures	23,634	13,065	34,520
b. Maintenance of Equipment	699	965	746
c. Traffic	-	-	-
d. Transportation	7,305	7,368	7,903
e. Miscellaneous General	-	-	-
f. Miscellaneous Operations	683	1,039	733
g. Fringe Benefits	5,522	2,976	5,978
h. Taxes	22	11	23
i. Rent Income	-	-	-
j. Rent Costs	-	-	-
k. Bridge Traffic Rerouting	-	-	-
8. Total Avoidable Costs	$46,316	$43,624	$58,746
Return on Value			
9. Valuation of Property			
a. Working Capital			$ 1,672
b. Income Tax Benefits			(41,139)
c. Net Liquidation Benefits			1,354,200
d. Total			$1,314,733
10. Rate of Return			19.30%
11. Total Return on Value			$ 253,743
12. Estimated Subsidy Payment (not including rehabilitation)			$ 283,962

1/ Source: Burlington Northern abandonment application AB-6 (Sub. No. 52F), verified statement of Robert E. Taylor, Jr., Exhibit No. 3 and

2/ Source: Burlington Northern abandonment application AB-6 (Sub. No. 52F), Application and Supplemental Environmental Evaluation, May 18, 1978, Exhibit F.

3/ Based on 1977 traffic. If based on 1978 traffic, the estimated subsidy payment would have been approximately $20,000 less.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The 9th subdivision of the Burlington Northern's Rocky Mountain Division (a former Chicago, Burlington, & Quincy Railroad branch) is a single track line with passing sidings at Roberts, Joliet, and Silesia. The line runs through mountainous terrain with a 1.9% ruling grade descending towards Red Lodge. Maximum speeds are 35 mph between Silesia and Joliet and 30 mph between Joliet and Red Lodge.

A physical inspection of the line was conducted by Railway Technology Services, Inc. for the MDH during June, 1979 with quantitative data samples being taken at five locations and qualitative spot checks at several additional locations to verify the consistency of track work and conditions. The line was found to be in fairly good condition; the major deficiency being required tie renewals.

The cost of rehabilitating the track to fully meet FRA Track Class 1 conditions to permit 10-15 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	4,484	$ 23.00	$103,132
Joint Tightening	mile	34.6	288.00	9,965
Replace Tie Plates	each	498	3.85	1,917
Turnout Rehabilitation	each	13	588.00	7,644
Switch Ties Replace.	in. ft.	2,964	8.20	24,305
Light Ballast Dump	cu. yd.	17,451	6.60	115,177
Spot Tamping	mile	34.6	991.00	34,288
Spraying	mile	34.6	364.00	12,594
Total for 34.6 miles				$309,022
Cost per mile				$ 8,931

The cost of rehabilitating the track to fully meet FRA Track Class 2 conditions to permit 20-30 mph maximum operating speeds is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	11,360	$ 23.00	$261,280
Joint Tightening	mile	34.6	288.00	9,965
Replace Tie Plates	each	498	3.85	1,917
Turnout Rehabilitation	each	13	294.00	7,644
Switch Ties Replace.	in. ft.	2,964	8.20	24,305
Light Ballast Dump	cu. yd.	12,133	6.60	80,078
Full Ballast Dump	cu. yd.	25,420	6.60	167,772
Surfacing & Lining	mile	34.6	3,172.00	109,751
Spraying	mile	34.6	364.00	12,594
Total for 34.6 miles				$675,306
Cost per mile				$ 19,518

The total salvage value of the line was estimated to be $807,988. Pick-up costs were estimated to be $476,477 for a net salvage value of $331,511.

4. FUTURE FREIGHT SERVICE NEEDS

Were the future simply a continuation of past traffic patterns, then there would be little need to retain this line.

The Red Lodge to Silesia line is located in an area which at one time was the principal coal mining region in Montana. Recently, the Beartooth Coal Company, Inc. (BCC) applied to the Montana Department of State Lands for an underground mining permit to reopen the old Brophy Mine (closed in 1959), located approximately three miles east/southeast of Red Lodge. On July 10, 1978, the Department issued a Preliminary Environmental Review[1/] which concluded that the issuance of a permit to BCC does not constitute an action which might significantly affect the quality of the human environment. On July 13, 1978, the Department issued Mine Operating Permit 78010 to BCC.[2/] Presently, BCC is preparing the mine and assembling necessary mining equipment. The company expects to begin test shipments to prospective customers by mid-August with initial production beginning in the Fall. Production is expected to begin at the rate of approximately 1,000 tons per week increasing to approximately 5,000 tons per week within two or three years of start up. Ultimate production levels are expected to be in the order of one to two million tons per year. Initially, the coal will be marketed to industrial users in Montana and the Pacific Northwest. The mine is being developed in anticipation of sales to yet-to-be developed coal-fired electric generating plants in the northwest. The existing coal seam has a sulfur content between 0.89 and 1.5 percent, a moisture content of 10 to 11 percent, and a BTU content around 11,000. While this mine has yet-to-begin commercial operations, the investments made to date give strong evidence that coal traffic will eventually materialize, although the production rates may vary from those anticipated by BCC.

Historically, coal from the Brophy Mine was trucked to Red Lodge (4.5 miles from the mine/mouth) for loading into rail cars. Given the initial production level of 600 carloads per year increasing within several years to 3,000 carloads (and potentially increasing to 15,000 carloads per year if and when a long-term contract is executed with a public utility), one would think that this amount of traffic would be enough to ensure retention of the line, at least until the long-term production pattern of the BCC operations could be determined.

1/ Contents specified by the Montana Environmental Policy Act (Chapter 65, Title 69, R.C.M. 1947) and Department rules adopted pursuant thereto (Title 26, Chapter 2, Subchapter 18 of A.R.M.).

2/ This permit was suspended on September 22, 1978 and development work halted until certain infractions had been corrected. The suspension order was stayed on January 9, 1979 with development work resuming at that time.

Mitigating against the projected traffic figures is the fact that no coal purchase contracts have been negotiated nor have any rail tariffs for transporting coal been established. This cannot be done until mine development has advanced to the point that test samples can be forwarded to potential customers for their analysis and purchase decision. Thus, the Burlington Northern still considers the reinstitution of coal mining in the Red Lodge area to be speculative. Were coal traffic to develop, the railroad argues that it can be handled using their line to East Bridger, located 26 miles from the mine site.

There is no question that rail service will be needed to transport at least a major portion of the coal to industrial consumers and all of the coal that may eventually be required by utilities. The disagreement comes over whether the Red Lodge to Silesia Line is all that essential. Both BCC and the Burlington Northern are seeking to minimize their operating costs. The former requires the Red Lodge to Silesia Line to accomplish this purpose, whereas the latter seeks the elimination of unnecessary trackage.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on this line account for 0.01 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would appear to be small. However, this finding is misleading in that abandonment would affect to some degree (1) the viability of future coal mining operations to the extent that this results in higher transshipment costs between the mine/mouth and the closest railhead, due to the increased distance, and (2) state expenditures for maintaining and improving routes used for hauling coal. Were the Silesia to Red Lodge Line retained, the local coal haul would be over Route 308 between Bearcreek and Red Lodge, a route scheduled for an oil and stone seal coat this summer. The present highway structure is considered inadequate to sustain concentrated heavy truck movements without future reconstruction.1/ Abandonment of this line would necessitate the use of Route 308 between Bearcreek and Belfry and Route 72 between Belfry and Bridger. The latter would also have to be reconstructed, should substantial coal traffic materialize. From the state highway perspective, abandonment of the Silesia to Red Lodge Line would trigger state capital expenditures at an earlier point in time as well as increased maintenance expenditures stemming from the use of heavily laden vehicles to transport coal.

1/ See "Highway Impact Analysis of the Proposed BN Abandonment - Silesia to Red Lodge Spur", prepared by the MDH Rail Planning Unit for the Montana Consumer's Council, February 2, 1979.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Present traffic volumes are insufficient to sustain operation by a shortline railroad, nor could such operation be sustained with the addition of industrial coal traffic envisioned initially. A shortline operation would appear viable should traffic reach 3,000 carloads annually (or above). However, it would probably be in the Burlington Northern's interest to provide the required rail service, rather than sharing revenues and interchanging traffic with a shortline operator. This is especially true were the coal mining operation to reach a volume level suitable for unit coal trains.

Shippers have indicated that they would use trucking in lieu of rail. Local farmers would probably sell their wheat through an area grain dealer, who would truck the product to the Port of Lewiston and barge transport to reach the west coast. Fertilizer would probably be brought in by truck from dealers or unloading facilities in or around Billings.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served on an as-needed basis by one locomotive (a GP-9) and a four-man local crew operating out of Laurel. Further service reductions to achieve substantial operating economies do not appear possible.

Consolidation, pooling, or joint use are not feasible on this line.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line at this time, although such action might be considered as a means of preserving future rail access to the Red Lodge area should it become apparent that the production of coal from Beartooth Mine (and others) will reach a level appropriate to the use of unit coal trains.

10. FUTURE OF LINE SUBSEQUENT TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using the RSPO costing system indicate that the attributable revenues are less than the avoidable costs. However, this factor is minor compared with the return on investment foregone by continuation of this light density line.

By application dated May 18, 1978, the Burlington Northern is seeking ICC authority to abandon this line. Under recent revisions to the Section 803 program, federal financial assistance is available for enhancing the viability of the line or mitigating the effects of this and similar lines. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation or substitute service are required to be the subject of a benefit-cost analysis resulting in the selection of those projects offering the highest benefits.)

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

No non-rail alternatives other than abandonment have been evaluated. Continued rail service alternatives include present traffic plus the addition of 600, 3000, or 15,000 carloads of coal annually.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Burlington Northern branchline account records indicate that the line incurs a $20 thousand per year loss, not including return on investment (using RSPO guidelines, the railroad-computed return on value is $254 thousand annually). Including a higher allowance for maintenance of way and structures (branchline account data indicate only minimal maintenance expenditures) and a return on investment, the line appears to lose about $195 thousand per year with present traffic. Including the coal production envisioned by the Beartooth Coal Company (600 carloads in the first year and 3,000 carloads by the third year), the line would lose about $291 thousand in the first year (without rehabilitation) and return a profit (with Class 2 rehabilitation) of approximately $253 thousand in the third year. A further traffic increase to 15,000 carloads annually would produce a profit of over $2 million (after allowing for upgrading to Class 3 standards by replacing existing light rail with CWR relay rail). (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 8 - Red Lodge to Silesia

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	310	215	3,958	
Retain Rail Service				
A. BN Operation (with Present Traffic)				
w/o Rehab.	40,234	31,016	567,017	0.01
Rehab. to Class 1	47,807	36,854	673,742	0.01
B. BN Operation (with an additional 600 carloads of coal)				
w/o Rehab.	71,403	55,043	1,006,281	N.A.
Rehab. to Class 2	78,021	60,145	1,099,547	N.A.
C. BN Operation (with an additional 3,000 carloads of coal)				
Rehab. to Class 2	(62,133)	(47,897)	(875,645)	3/
Upgrade to Class 3[4/]	5,680	4,379	80,044	N.A.
D. BN Operation (with an additional 15,000 carloads of coal)				
Rehab. to Class 2	(712,801)	(549,482)	(10,045,442)	3/
Upgrade to Class 3[4/]	(644,988)	(497,206)	(9,089,754)	3/

1/ Parenthesis indicates revenues exceed costs; hence alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternative shown.

4/ Includes replacing existing rail with 115 or 130 pound CWR relay rail estimated at $200,000 per mile amortized over 25 years.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 8 - Red Lodge to Silesia

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-4
8. Increased Highway Maintenance & Reconst. Cost	MDH	4 [4]
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-674
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+580

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

[2] Present value over a four-year period. Present traffic.

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

There are, however, other factors which enter into a decision on the Red Lodge to Silesia Line.

1. BN has in the past considered BCC's coal projections as speculative and not attainable within the anticipated time frame. This stems from (a) optimistic and often unrealistic production forecasts typically made by mining companies, (b) the rather drastic tapering off in the rate at which coal reserves are being developed in Montana, (c) the fact that no firm commitments have been made by potential customers to purchase the coal, and (d) a lack of information. While BN has stated that it must know whether the proposed coal production is viable, it never did specify to BCC the type of "sufficient, reliable, and verifiable information" required to accurately assess the impact of BCC's coal operation on this line. BN apparently was looking for firm commitments at a point in time when such commitments are impossible (sales contracts are generally not negotiated until, at least, test samples can be supplied). This requirement placed BCC in a difficult position.

2. BN has argued that there is no proof that the generated coal traffic will make the line profitable. Again, lack of information on (1) destinations, (2) tonnages, (3) temporal variation, and (4) car supply do make it difficult for BN to precisely estimate potential revenues, off-branch and on-branch costs. BN has also questioned whether the profit from coal traffic is sizeable enough to cover an estimated $414,000 in deferred maintenance needs. In response, BCC has commissioned analyses to determine the traffic required for breakeven operations. Using data available to the public sector (e.g., Rail Form A) plus assumptions on tariffs, these computations yield a breakeven point at 251 carloads per year (204 carloads of coal plus 45 carloads of other commodities). From BN's perspective, any rail-oriented coal traffic that may emerge from BCC's operations has to go via BN. Diverting this traffic to East Bridger makes economic sense in that it elimates all costs associated with keeping the Red Lodge to Silesia Line in operation.

3. Recognizing the dilemma posed by BN's desire for hard evidence, BCC at one point proposed that the proceedings be stayed for a sufficient period of time during which the development of the Brophy #2

reserves will firmly establish the necessity and profitability of maintaining the line.[1/] Curiously enough, BN rejected this concept, insisting that the decision on public convenience and necessity must be made now.[2/]

4. From the state perspective, any rail line abandonment which would eliminate the ability to commercially exploit the state's coal reserves should be avoided. Of prime concern and interest is the development of jobs and personal income brought about by mining ventures such as BCC.

5. Finally, MDH computations indicate that the resulting increase in truck volumes along Routes 308 and 72 to East Bridger over a two- or three-year period will (a) drastically shorten the life of the existing pavement, thus accelerating required resurfacing or reconstruction projects, and (b) shorten the life expectancy of replacement pavements. This obviously will impact upon state construction and resurfacing programs to the extent that other projects may have to be delayed or postponed if the reconstruction of Routes 308 and 72 is accelerated. Funding for such projects would come from the federal highway trust fund and state gas and ton mile tax monies already being used to finance highway projects across the state, thus spreading these resources even thinner.

MDH concludes that abandonment of the Red Lodge to Silesia Line at this time would be premature. The Department recommends that both parties enter into honest negotiations to achieve a solution whereby (1) the financial interests of the railroad are protected, (2) the line (or at least the right-of-way) is preserved for future rail access into the area, should coal production require more direct rail access, and (3) excessive use of the state highway system by heavily laden coal trucks is avoided, thus eliminating undue financial burdens on the state. If after a reasonable period of time (say one to two years) the coal traffic does not develop or develops at a rate far less than that projected by the coal company, then the Department would not oppose the abandonment of this line.

This abandonment is being processed under the ICC's modified procedure; all statements and briefs have already been filed. The above assessment may be moot if the ICC reaches a decision that public convenience and necessity permit the abandonment of this line.

1/ Verified statement of Jim Kelley, Operating Vice President, Beartooth Coal Company, Docket No. AB 6 (Sub. No. 52F), p. 9.

2/ Reply verified statement of John O. Davies, Vice President, BN Billings Region, February 28, 1979, p. 4.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

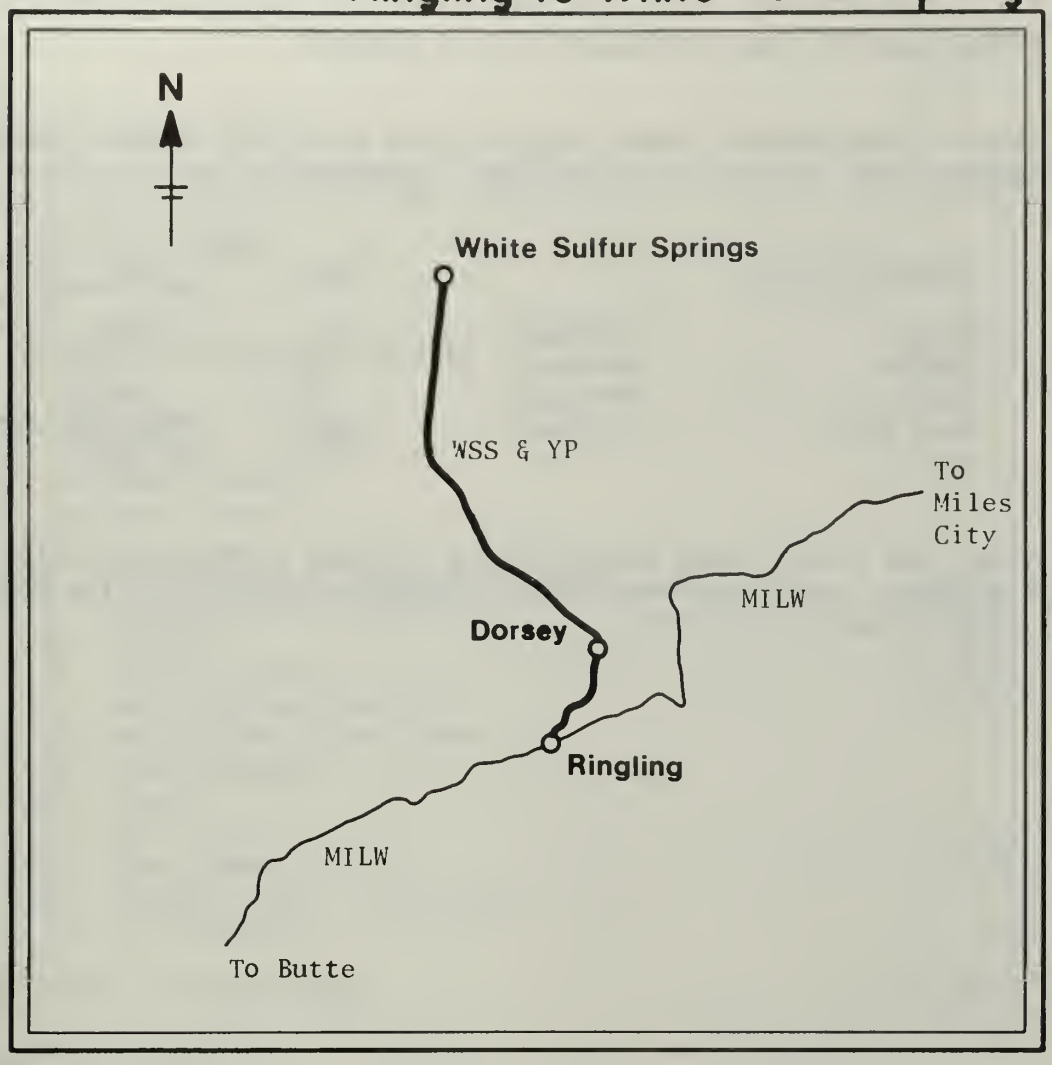
The decision to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- Provided that the coal traffic materializes as estimated by the Beartooth Coal Company (100,000 tons annually initially, 250,000 tons annually within three years), the line does have long-term economic impact.

- Abandonment would cause severe impacts upon the highway system if the projected coal production materialized. Coupled with this would be a significant increase in energy use and other environmental factors.

- Although present economic impacts are nil, abandonment would adversely affect the long-term viability of this coal mining operation, and ultimately result in fewer economic benefits to the local community and the state as a whole.

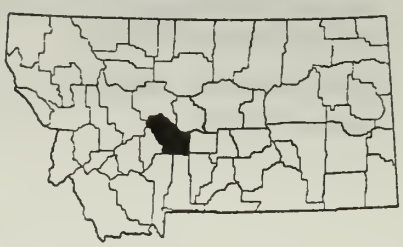
Line 9 Ringling to White Sulfur Springs



This line, of which 3.5 miles is owned by the Chicago, Milwaukee, St. Paul and Pacific Railroad and the remainder by the White Sulfur Springs and Yellowstone Park Railroad, extends from Ringling (on the Milwaukee's 4th Subdivision Main Line) to White Sulfur Springs, a distance of 22.8 miles in Meagher County. By application filed August 18, 1978, the Milwaukee is seeking authority to abandon the portion between Ringling and Dorsey presently leased, operated and maintained by the White Sulfur Springs and Yellowstone Park Railroad. Consequently, this portion of the line is classified as ICC Systems Diagram Category 3 (pending abandonment). The remainder of the line has no ICC Systems Diagram classification, since the carrier is a Class 2 railroad.

LEGEND

- **Ringling to White Sulfur Springs**
- **Other Lines**
- O **Freight Station**
- • **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The two rail-oriented firms located along this line reported shipping approximately 480 carloads of the following commodities during 1977.1/

Commodity Type		1977 Cars	1977 Tons
Wheat	Outbound	61	4,100
Barley	Outbound	19	1,300
Lumber	Outbound	4 2/	160 2/
Wood Chips	Outbound	692 2/	51,200 2/
Total		776	56,760

Almost all of the wheat and barley is destined to the west coast. Lumber shipments were to midwestern and eastern destinations. The wood chips were shipped to Missoula.

1/ 1977 was considered a more typical year than 1978 when wheat and barley shipments dropped off to 32 carloads. The lumber company reported shipping 4 carloads of lumber and 692 carloads of wood chips during 1978.

2/ MDH estimate based on 1977 R-2 Annual Report and shippers' survey information.

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1977[1/]
Attributable Revenues	
1. Freight Originated and/or Terminated On-Branch	$ 119,041
2. Bridge Traffic	
3. Demurrage	
4. All Other	
5. Total Revenues Attributable	$ 119,041
Avoidable Costs	
6. Off-Branch Costs	$ -
7. On-Branch Costs	
a. Maintenance of Way & Structures	36,191
b. Maintenance of Equipment	2,140
c. Traffic	7,603
d. Transportation	22,374
e. Miscellaneous General	18,524
f. Miscellaneous Operations	
g. Fringe Benefits	
h. Taxes	
i. Rent Income	
j. Rent Costs	6,850
k. Bridge Traffic Rerouting	
l. Contingencies	
8. Total Avoidable Costs	$ 93,682
Return on Value	
9. Valuation of Property	
a. Working Capital	
b. Income Tax Benefits	
c. Net Liquidation Benefits	
d. Total	
10. Rate of Return	
11. Total Return on Value	
12. Estimated Subsidy Payment (not including rehabilitation)	

1/ R-2 Annual Report filed by the WSS & YP for 1977.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The Ringling to White Sulfur Springs line consists of a 3.6 mile segment between Ringling and Dorsey owned by the Milwaukee and leased to the White Sulfur Springs & Yellowstone Park Railway Company (WSS & YP) and a 19.2 mile segment owned by the WSS & YP.

Neither the Milwaukee nor the WSS & YP portions of the line were inspected by MDH, although the Milwaukee did inspect the portion under lease in preparing an abandonment application.[1/] The remainder of the line is probably in similar condition. The track consists of 65-pound rail laid around 1915. The Milwaukee considers the rail worn, but in serviceable condition. Joint bars are considered to be in fair to good condition. Cross-ties are a mixture of about half hardwood and half softwood ties ranging in age from 25 to 30 years. The Milwaukee estimates that about a quarter of the ties will have to be replaced over the next five years. Ballast consists of pit run gravel. Track and surface is considered to be fair to good as is the general track condition.

Maintenance of way expenditures in recent years have been minimal. The Milwaukee considers extensive rehabilitation necessary if service is to be maintained on this line over the long term. The cost of rehabilitating the Ringling to Dorsey portion of this line over a five-year period has been estimated by the Milwaukee as follows:

Description	Unit	Quantity	Unit Cost Material	Unit Cost Labor	1st Year Cost
Rail Replacement	trk ft	660	$ 2.83	$ 2.55	$ 3,553
Cross-tie Replacement	each	418	13.00	8.50	8,987
Ballast	cu yd	250	4.30	8.50	3,200
Other Track Material	lot	1	1,100.00		1,100
Align and Surface	mile	0.30		45.00	1,350
Repair Grade Crossings	ft.				-
Bridge & Culvert Work	lot	1	800.00	800.00	1,600
Weed & Brush Control	mile	3.48	175.00	95.00	940
Miscellaneous Expense	-				2,921
Total (including 10% for contingencies)					$ 26,016

Similar rehabilitation costs of $28,097, $30,345, $32,772, and $35,395 are estimated for 1980 through 1983, thus producing a total rehabilitation estimate of $152,625 for 3.5 miles of track ($43,858 per mile). The net salvage value of the 3.5 mile segment is estimated to be $39,091 thousand and the value of the right-of-way to be $12,400 thousand. Assuming these estimates are characteristic of the entire line, Class 1 rehabilitation would cost approximately $3.5 million.

1/ Milwaukee abandonment application AB-7 (Sub. No. 66F), Exhibit 5, Appendix A, August 18, 1978.

4. FUTURE FREIGHT SERVICE NEEDS

As long as rail service is provided, both shippers are likely to continue to use rail to the extent that they can obtain empty cars as needed. The WSS&YP does not own freight cars of its own, but rather depends upon the Milwaukee (as the connecting carrier) to supply the required cars. Both shippers utilize truck for some grain and wood chip shipments. Any growth in rail traffic depends directly upon whether the lumber company chooses to expand the scale of operations (or shift present truck shipments to rail) and the vicissitudes of the weather and other factors affecting the production of wheat and barley in the local area.

So far, the WSS&YP apparently has been a modestly profitable operation; to the extent that traffic remains at, or exceeds, 1977 levels and the Milwaukee continues to serve Ringling, continuation of rail service should remain viable or at least a break-even proposition. The future of this line really rests upon whether the Milwaukee (or some other carrier) continues to serve Ringling, rather than on the profitability of the Class 2 carrier, per se. The present traffic base, which is marginal for a 23-mile line, becomes untenable if acquisition of Milwaukee mainline trackage becomes necessary to retain rail system connections.1/ Under such circumstances, there would be little long-term need for rail freight service on this line. Even were the Milwaukee to remain, present car supply and transit time reliability problems would have to be solved to enable the WSS&YP to capture rail's traditional share of the grain and wood chip traffic.

One note of caution. Once rail service ceases, there is very little possibility for its future restoration. In the face of changing modal economies and energy dependency, there is no guarantee that area interests will be best served over the long-term by total dependence upon motor carrier transport.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on this line account for 0.02 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

1/ The profitability of the WSS&YP may have decreased in 1978 with the downturn in traffic. The R-2 annual report for 1978 was unavailable to MDH in July, 1979.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line.

The impact of substituting motor carrier transport varies by shipper. The grain public warehouse would probably use truck/barge for wheat shipments to the west coast and shift barley marketing to Montana destinations accessible by truck. The lumber manufacturer would probably shift over entirely to truck for wood chip shipments and change lumber marketing to regional markets accessible by truck.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line has, in the past, been served on an as-needed basis by one locomotive and a two-man local crew operating out of White Sulfur Springs. In 1977, approximately 110 round trips were made on the branchline.1/ Further service reductions to achieve substantial operating economies do not appear to be possible.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that under present conditions attributable revenues do exceed avoidable costs by a small amount.

By application dated August 18, 1978, the Milwaukee is seeking ICC authority to abandon a 3.5 mile segment leased to the WSS&YP. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be

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1/ MDH estimate based on annual locomotive unit miles reported in the 1977 R-2 Annual Report.

used in subsidizing operations, acquisition, rehabilitation or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is doubtful whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

No non-rail alternatives other than abandonment have been evaluated.

Several scenarios for continued rail operations were analyzed. The three investment options considered were:

- Retain present rail service without rehabilitation.
- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.
- In addition to the above track rehabilitation, WSS&YP acquisition and operation of the portion of the Milwaukee mainline extending from Logan to Ringling. This scenario assumes Milwaukee abandonment of its northwest extension and the necessity of acquiring 56.9 miles of Milwaukee trackage in order to connect with the Burlington Northern. No rehabilitation costs have been included, since the line consists of 112 and 115 pound rail maintained presumably to FRA Track Class 3 or 4 conditions (line assumed capable of 25 mph operation).

Only one traffic level (1977 carloads) has been evaluated. This represents a relatively optimistic picture of traffic available to the WSS&YP.

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, ownership, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

WSS&YP Railway records indicate that the line incurs a $25 thousand per year profit, not including return on investment (the latter has been estimated to be approximately $37 thousand). Including a considerably higher allowance for maintenance of way and structures and a return on investment, the line appears to lose about $25 thousand per year with present traffic (including amortization of Class 1 rehabilitation costs). (Worksheet VI presents these estimates as present rates for the first and final quarter and as a four-year total).

So long as the Milwaukee continues to operate its mainline and major maintenance of way and structures can be postponed, the line should continue to earn a modest profit. If the Milwaukee abandons its mainline, the WSS&YP would be forced to acquire or lease the trackage between Logan and Ringling (in addition to the trackage presently owned by the Milwaukee between Ringling and Dorsey). With an expanded rail line, the line appears to lose about $126 thousand per year with present traffic plus 92 carloads of grain originating at Ringling.1/

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $94 thousand annually and is comprised solely of transport cost increases. The ratio of the costs of discontinuing rail service to those of continuing such service (analogous to a benefit-cost ratio) is 3.3 for the present system and 0.65 for an expanded system. Thus, economic and social arguments could be made for continuing rail service. However, in view of the need for Section 803 funds on other projects offering far greater economic benefits, MDH is not optimistic that rail service could be retained on this line, especially if the Milwaukee mainline is abandoned.

The Department anticipates that the Milwaukee will file an abandonment application for its connecting line at Ringling. Since the WSS&YP is a profitable operation, the Department will seek the transfer of necessary connecting trackage to the Burlington Northern or the WSS&YP so that uninterrupted rail service can continue. Whether the latter can afford to purchase the 3.5 mile segment owned by the Milwaukee plus the Main Line remains questionable.

1/ No lease or amortized purchase cost has been included for the additional Milwaukee trackage. Since this trackage is presently the "main line", no rehabilitation costs have been included. Some additional traffic may be available to the WSS&YP from present Milwaukee stations.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 9 - Ringling to White Sulfur Springs

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	25,452	17,658	325,369	
Retain Rail Service				
A. WSS&YP Operation (with Present Traffic)				
w/o Rehab.	2,464	1,899	34,726	9.37
Rehab. to Class 1	7,015	5,408	98,868	3.29
B. WSS&YP Operation (Extended System, Present Traffic)				
w/o Rehab.	31,211	24,058	439,830	0.74
Rehab. to Class 1	35,762	27,567	503,972	0.65

1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 9 - Ringling to White Sulphur Springs

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss [3] in Affected Counties	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-325
8. Increased Highway Maintenance & Reconst. Cost	MDH	4/
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-99
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+185

1/ Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

2/ Present value over a four-year period.

3/

4/ Represents primary and secondary wage loss less any increases in local trucking employment.

5/ Data not presently available.

6/ Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

7/ Continued operation as at present with rehabilitation to Class I standards.

Net salvage value invested at nine percent interest for four years.

13. RELATIONSHIP OF DECISION TO EVALUATE CRITERIA

The decision to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

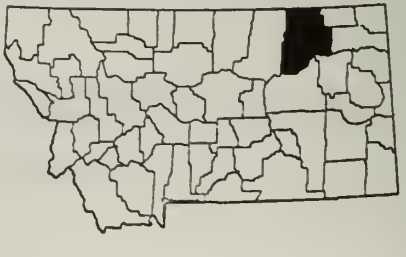
- The line is profitable, thus it has economic viability.
- The WSS&YP would be adversely affected, were the connecting trackage abandoned.

Line 10 Glasgow to Glasgow AFB

This Burlington Northern industrial track extends from Glasgow (on the BN's Montana Division - 1st Subdivision Main Line) to the Valley Industrial Park (formerly the Glasgow Air Force Base), a distance of 18.8 miles in Valley County. The line is currently classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years).

LEGEND

- **Glasgow to Glasgow AFB**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

This line was originally constructed in the mid 1950's to provide rail access for jet fuel and building supplies to the Glasgow Air Force Base. In 1968, the Department of Defense announced its intention to gradually phase out the air base, a process which was not completed until the mid 1970's. During the mid to late 1970's little activity took place at the air force base due to the fact that potential users of facilities located on the base could only make short-term lease arrangements (with a 30-day cancellation clause) and uncertainty over whether the base was to be retained as a reserve (or mothballed) facility or was to be sold or transferred to another governmental agency. During this period, care and maintenance contracts were negotiated at different times with both a private vendor and Valley County for the airfield and commercially usable structures and facilities located on the base. In April, 1979 the base (less the family housing units) was conveyed to Valley County, which in turn established the Valley Industrial Park Corporation to manage and operate the air base as an industrial park.

Considerable efforts have been made in the past to find potential tenants for the structures and facilities. During the mid 1970's, a developer was hired to encourage commercial firms to relocate to the air force base. The developer was not particularly successful primarily because of the uncertain future of the base. Since then, promotional and development activities have been taken over by the corporation established by the County. The County has received EDA approval for a $1 million grant to install individual, oil-fired heating units in the structures suitable for commercial use, thus eventually eliminating the need to operate a centralized heating system.

While some use is being made of the available facilities, none of the uses to date have resulted in significant rail traffic. Commercial usage today consists of (1) an alcoholism rehabilitation program occupying part of the base hospital, (2) a youth corps-family training program, (3) a meat packer utilizing some of the cold storage facilities, and (4) an air-frame manufacturer utilizing the airfield for pilot training as an alternative to Moses Lake. In 1978, the Burlington Northern made seven trips (all in the fourth quarter) to the base, handling perhaps 10 to 15 carloads of traffic.

Past traffic and the characteristics of present tenants are not an appropriate indicator of future rail freight traffic, however.

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1978[1/]
Attributable Revenues	
1. Freight Originated and/or Terminated On-Branch	$ 10,000
2. Bridge Traffic	
3. Demurrage	
4. All Other	
5. Total Revenues Attributable	10,000
Avoidable Costs	
6. Off-Branch Costs	6,000
7. On-Branch Costs	
a. Maintenance of Way and Structures	6,000
b. Maintenance of Equipment	400
c. Traffic	
d. Transportation	1,800
e. Miscellaneous General	
f. Miscellaneous Operations	
g. Fringe Benefits	800
h. Taxes	
i. Rent Income	
j. Rent Costs	
k. Bridge Traffic Rerouting	
8. Total Avoidable Costs	15,000
Return on Value	
9. Valuation of Property	
a. Working Capital	1,000
b. Income Tax Benefits	(20,000)
c. Net Liquidation Benefits	600,000
d. Total	581,000
10. Rate of Return	19.3%
11. Total Return on Value	112,000
12. Estimated Subsidy Payment (not including rehabilitation)	$117,000

1/ MDH estimates (BN Branchline Account Data not Available).

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

A quick visual inspection of the line was conducted by Roger CREIGHTON ASSOCIATES Incorporated for the MDH during May, 1979. Basically, the line is in satisfactory condition for Class 1 operation with some spot tie renewals considered likely. For Class 2 or 3 operations, spot ballasting and aligning and surfacing would be required along with additional tie renewals. The line consists of 130 pound rail which appeared to be in good condition. Some joint tightening and bolt and joint bar replacement would also be required.

4. FUTURE FREIGHT SERVICE NEEDS

Future freight service needs depend upon the industrial and commercial tenants of the Valley Industrial Park. Both the previous developer and the present corporation have found it difficult to attract industrial and commercial clients, even though favorable long-term lease arrangements are possible. This is particularly true for those potential uses which could generate substantial rail volumes. One major proposal was the siting of a coal-fired electric generating station and a fertilizer plant; this proposal is not currently being promoted since local agreement on the relaxing of air quality standards (from Class 1) apparently cannot be obtained. A modular home manufacturer is presently considering locating at the industrial site; if successful, lumber and gypsum board would probably be brought in by rail. A wholesale lumber dealer is also considering locating in the park. During the construction of the Alaska to Minnesota natural gas pipeline, sizeable quantities of 48 inch pipe will be stored at the industrial park. This, however, is one-time traffic.

Retention of the rail line permits the marketing of park facilities for both light and heavy industrial usage. Loss of the rail line would virtually eliminate any chance of siting firms dependent upon rail usage. From the county perspective, retention of rail access is vital to the initial marketing of existing warehouse structures and other facilities. While it can be argued that the former base is not located in an area conducive to the type of industrial and commercial uses envisioned, the marketing of existing facilities can ill afford to be hampered by the loss of rail access, at least during the next few years. By that point, the long-term needs for rail service can be ascertained on the basis of the needs of tenants attracted to the park and the general character and nature of commercial and industrial activities taking place. It is conceivable that long-term rail freight service might not be required.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

On the basis of present traffic, abandonment of this industrial track would have little effect on state transportation needs. However, this finding is misleading in that abandonment could have a major impact on the transportation needs of prospective tenants of the Valley Industrial Park.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Since there is virtually no rail traffic on the line today, the impact of substituting alternate modes would at most be slight.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served on an as-needed basis by one locomotive (a GP-9) and a four-man local crew operating out of Glasgow. Further service reductions to achieve substantial operating economies do not appear possible.

Consolidation, pooling, or joint use are not feasible on this line.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line, although such action might be considered as a means of preserving rail access to the Valley Industrial Park.

10. FUTURE OF LINE SUBSEQUENT TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using the RSPO costing system indicate that the attributable revenues are less than the avoidable costs. However, this factor is minor compared with the return on investment foregone by continuation of this light density line.

No decision has been made by the Burlington Northern as to whether to seek the abandonment of this line. However, under recent revisions to the Section 803 Program, federal financial assistance is available for enhancing the viability of the line or mitigating the effects of abandonment of this and similar lines. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis resulting in the selection of those projects offering the highest benefits.)

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

No alternatives other than abandonment have been evaluated.

With regard to continued rail service, four traffic scenarios were evaluated:

- No traffic growth.
- Traffic at 100 carloads per year.
- Traffic at 250 carloads per year.
- Traffic at 500 carloads per year.

The results obtained from evaluating the above traffic scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing such service. The latter is essentially a benefit-cost ratio, which in this case is zero since there are no community impacts of abandoning rail service based on present traffic.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Although MDH estimates indicate that the present difference between attributable revenues and avoidable costs is only in the

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 10 - Glasgow to Glasgow AFB

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	0	0	0	
Retain Rail Service				
A. BN Operation (with Present Traffic) w/o Rehab.	34,890	26,896	491,704	0
B. BN Operation (with 100 Carloads/Year) w/o Rehab.	23,507	18,121	331,287	N.A.
C. BN Operation (with 250 Carloads/Year) w/o Rehab.	6,384	4,921	89,970	N.A.
D. BN Operation (with 500 Carloads/Year) w/o Rehab.	(27,244)	(21,002)	(383,963)	3/

1/ Parenthesis indicates revenues exceed costs, hence alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternative shown.

order of $5,000 per year, this reflects minimal maintenance of way and structures expenditures and no return on the investment. Including an approximate return on investment and a more realistic allowance for maintenance of way and structures, the line would appear to lose around $142 thousand per year with present traffic. Thus, the Department fully appreciates the reasoning underlying BN's desire to eventually seek the abandonment of this line.

The key factor is the long-term traffic potential of the industrial park. Recent institutional changes have somewhat improved the chances that industrial and commercial tenants can be attracted to the industrial park, as compared with the limited success occurring over the past few years. This traffic potential can only be ascertained through the lease of space to commercial and industrial firms during the remainder of 1979 and 1980. Judgments made on the basis of current tenants or the rail traffic generated in 1978 are premature.

The attractiveness of a particular site is a function of its (1) access to markets and (2) labor availability and cost. Considering the market factor first, industries increasingly look for locations to provide quick, easy, and economical access to markets. The characteristics of the highway system, especially a location convenient to the Interstate System, are usually far more important than whether a site has rail access or not. If rail service is required, industry much prefers a mainline location where they can have daily switching as opposed to a location on a light density line with once- or twice-a-week service. Consequently, the Valley Industrial Park does not enjoy a favorable location in terms of competing with similar sites around Billings or Great Falls. With respect to labor, the larger the concentration of highly skilled and professional manpower, the greater will be the opportunity for attracting tenants. Also important is the availability and cost of capital, the presence of an in-place utility infrastructure, the agglomeration of industry, and the external economies that result from the availability or a large variety of specialized supporting supplies and services. In seeking industrial or commercial tenants, the major selling point has to be the availability of buildings and utilities at a relatively low price. Based on the above factors, the Valley Industrial Park, Inc. is already facing an uphill struggle in attracting commercial and industrial tenants. This situation is further complicated by the desire on the part of some local parties to adhere to environmental standards which have the effect of limiting usage of the industrial park to "clean" light manufacturing activities. This, in turn, directly affects the number and type of tenants attracted and the potential amount of rail traffic.

While the Department hopes that the Burlington Northern will not seek the abandonment of this line until the traffic potential of the

industrial park can be better determined, it appreciates and recognizes the railroad's desire to eliminate unprofitable operations and recoup the capital tied up in the track.[1/] The Department further recognizes the importance of maintaining rail access to the industrial park in attracting prospective tenants. Consequently, the following actions are recommended.

1. In the intervening period (until the potential of the line can be established), the Burlington Northern should be relieved of any net cost associated with the line save opportunity cost.

   While present state law does not permit avoidance of property taxes, Valley County should consider other means for sharing in the cost of the line.

2. If by the end of 1980 it becomes apparent that significant rail traffic is unlikely (say 200 to 400 carloads per year by 1982 or 1983), the Department recommends either (1) purchase of the line by the Valley Industrial Park, Inc. (if retention of rail access is desired by local officials), or (2) abandonment of service on the line. Abandoning service, but not trackage, would permit the restoration of rail service, if and when traffic develops. The Department would seek federal funds for this purpose only if (1) a favorable benefit-cost ratio could be developed for this project, and (2) sufficient federal funds were available to the state to handle this project (in addition to anticipated projects involving portions of the Milwaukee System). Either Valley County or the Valley County Industrial Park, Inc. would be required to provide the local share.

3. If by the end of 1980 the traffic increases sufficiently to establish probable long-term viability, the Burlington Northern would then agree to remove the line from their system diagram map. If track rehabilitation is required, the Department would agree to seek federal funds for this purpose with either Valley County or the Valley County Industrial Park, Inc. providing the local share.

4. Should the Burlington Northern seek the immediate abandonment of this line, the Department would oppose this action as being premature until the long-term potential of the line is established through lease of the facilities to commercial and industrial tenants.

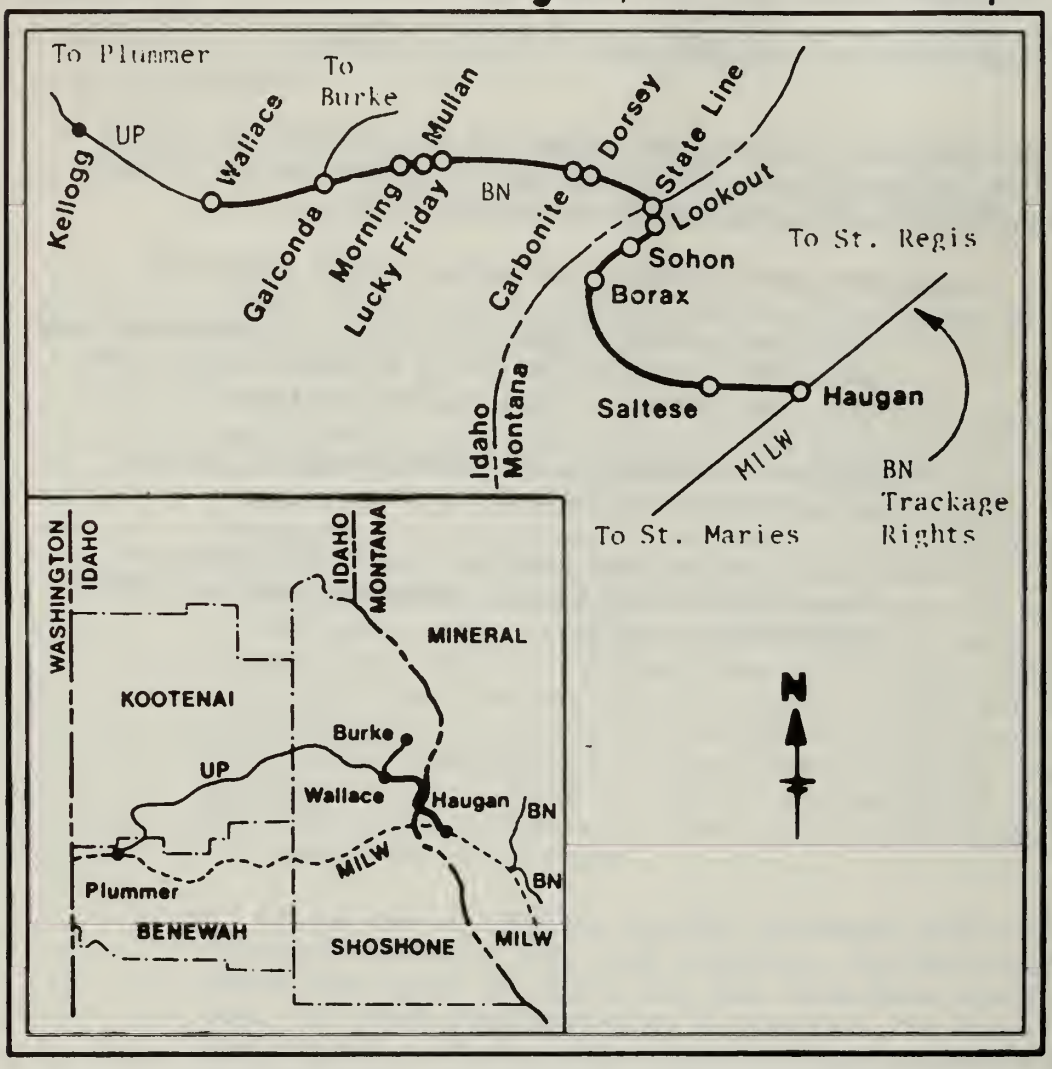
1/ The 130 pound rail and other track materials could be readily utilized elsewhere on the Burlington Northern.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision to oppose any immediate abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line may have long-term economic viability.
- While the present economic impacts of abandonment are negligible, such action could adversely affect the long-term viability of the industrial park.
- Certain industrial uses contemplated in the past are infeasible without rail access.
- Future action must take into account the type of tenants attracted to the industrial park and their transportation needs.

Line 11 Haugan, MT to Wallace, ID



By application filed May 18, 1978, the Burlington Northern Railroad seeks authority to abandon its 19th Subdivision, Rocky Mountain Division branchline between M.P. 19.57 near Haugan, MT and M.P. 49.07 near Mullan, ID in Mineral County, Montana, and Shoshone County, Idaho, a distance of 29.5 miles, and to discontinue service from M.P. 49.07 near Mullan to M.P. 58.61 near Wallace, Idaho, a distance of 9.54 miles. The segment between Mullan and Wallace would be conveyed to the Oregon-Washington Railroad and Navigation Company and the Union Pacific Railroad without reduction in the rail service currently provided. The line is classified as ICC System Diagram Category 3 (pending abandonment).

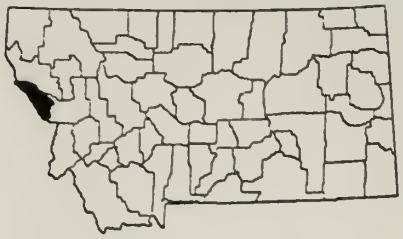
LEGEND

Haugan, MT to Wallace, ID

Other Lines

Freight Station

Other Station



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The seven rail-oriented firms located along this line in Idaho reported receiving 206 carloads and shipping 626 carloads of the following commodities during 1977.1/ All traffic originated or terminated on the Wallace to Mullan portion of the line. Reported traffic either

Commodity Type		Carloads	Tons
Fiberglas(mineral wool)	inbound	9	126
Duct and Tubing	outbound	35	700
Lead Concentrate	outbound	367	17,066
Zinc Concentrate	outbound	15	698
Copper Concentrate	outbound	91	8,145
Propane	inbound	18	1,143
Copper residue	outbound	49	3,773
Iron pyrite	outbound	48	3,696
Granular antimony	outbound	4	240
Coal	inbound	14	770
Limerock	inbound	165	12,375
Concentrate	outbound	5	375
Fertilizer	outbound	12	1,080
		832	50,187

utilized the Mullan to Haugan segment or was interchanged with the Union Pacific at Wallace. The lead and zinc concentrates destinated for the refining plant at Kellogg (392 carloads) was interchange traffic. The fiberglas duct and tubing shipments was, likewise, mainly interchanged with the Union Pacific. Since the copper residue, iron pyrite, limerock, concentrate, and fertilizer either originated or were destined to Montana, the most likely route utilized was the Burlington Northern trackage between Mullan and Haugan. Except for the propane which originates from Pasco, Washington, most of the remaining commodities probably traveled over the Mullan to Haugan segment, given the natural desire of the originating railroad to route traffic as far as possible over its own lines.

Worksheet I summarizes line and shipper characteristics. Rail-oriented firms located on this line include three major mining operations accounting for most of the rail traffic, a manufacturer of fiberglas duct and tubing, two coal dealers, and a propane distributor. A major refiner of lead and zinc ores is located at Kellogg.

1/ Commodity flow data supplied by the shippers located on this line. Burlington Northern records show 575 carloads (50,690 tons) originating/terminating on the Wallace to Mullan segment in 1977 and 562 carloads (47,548 tons) on this same segment in 1976. An additional 288 carloads of cement (21,827 tons) was shipped to Saltese; this traffic was for a highway construction project and, thus is non-recurring. See Exhibits D and E of the Burlington Northern's supplemental environmental evaluation to the abandonment application AB-6 (Sub. No. 51F), May 18, 1978.

THE IDAHO STATE RAIL PLAN

SERVICE EVALUATION WORKSHEET I

LINE AND SHIPPER CHARACTERISTICS

BRANCHLINE 1 HAUGAN MT (76-87919) - WALLACE ID (76-87957)

********** LINE CHARACTERISTICS **********	ENTIRE LINE	SEGMENT 1	SEGMENT 2	SEGMENT 3
TERMINI NAME	HAUGAN MT WALLACE ID			
LENGTH (MILES)	39.00	0.0	0.0	0.0
ICC CATEGORY	3	0	0	0
SERVICE	1	0	0	0
**********SHIPPER CHARACTERISTICS**********				
NUMBER OF SHIPPERS	8	0	0	0
NUMBER OF EMPLOYEES	3336	0	0	0
EMPLOYEES OF LARGEST SHIPPER*	200	0	0	0
AVERAGE EMPLOYEES PER SHIPPER	417	0	0	0
TOTAL PAYROLL	17656550	0	0	0
PAYROLL OF LARGEST SHIPPER*	3750000	0	0	0
AVERAGE PAYROLL PER SHIPPER	2207068	0	0	0
TOTAL SALES	174039130	0	0	0
SALES OF LARGEST SHIPPER*	18582000	0	0	0
AVERAGE SALES PER SHIPPER	21754880	0	0	0
TOTAL CARLOADS SHIPPED / RECIEVED	686	0	0	0
CARLOADS LARGEST SHIPPER*	382	0	0	0
AVERAGE CARLOADS PER SHIPPER	86	0	0	0
CARLOADS PER MILE	18	0	0	0
YEARLY GROWTH POTENTIAL WITH RAIL SERVICE				
SALES	0.	0.	0.	0.
CARLOADS	0.	0.	0.	0.
TRUCKLOADS	0.	0.	0.	0.
YEARLY GROWTH POTENTIAL WITHOUT RAIL SERVICE				
SALES	0.	0.	0.	0.
CARLOADS	0.	0.	0.	0.
TRUCKLOADS	0.	0.	0.	0.

*Largest shipper in this context means the shipper originating and/or terminating the highest number of rail carloads on this branchline in 1977.

10-22-78

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1977[1]	Projected Subsidy Year Operations[1]
Attributable Revenues		
1. Freight Originated and/or Terminated On-Branch	$286,649	$ 299,778
2. Bridge Traffic	-	-
3. Demurrage	-	-
4. All Other	9,668	9,668
5. Total Revenues Attributable	$296,317	$ 309,446
Avoidable Costs		
6. Off-Branch Costs	$ 66,503	$ 70,965
7. On-Branch Costs		
a. Maintenance of Way and Structures	82,105	88,006
b. Maintenance of Equipment	41,032	44,059
c. Traffic	-	-
d. Transportation	72,173	78,127
e. Miscellaneous General	-	-
f. Miscellaneous Operations	-	-
g. Fringe Benefits	24,589	26,618
h. Taxes	128	134
i. Rent Income	-	-
j. Rent Costs	-	-
k. Bridge Traffic Rerouting	-	-
8. Total Avoidable Costs	$389,591	$419,180
Return on Value		
9. Valuation of Property		
a. Working Capital	-	14,312
b. Income Tax Benefits	-	64,855
c. Net Liquidation Benefits	-	1,024,374
d. Total	$ -	$1,103,541
10. Rate of Return	- %	19.3%
11. Total Return on Value	$ -	$ 212,983[2]
12. Estimated Subsidy Payment (not including rehabilitation)	$ 93,274[2]	$ 109,734[2] 322,717

1/ Source: Burlington Northern abandonment application AB-6 (Sub. No. 51F), Exhibit I, May 18, 1978.

2/ Out-of-pocket loss (does not include return on value).

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The 19th subdivision of the Burlington Northern's Rocky Mountain Division (a former Northern Pacific Branch) is a single track line over the Bitterroot Range with passing sidings at Saltese, Lookout, Carbonite, Larson, and Mullen. The line runs through mountainous territory which is sparcely populated and subject to heavy snow and adverse weather conditions in the winter. Maximum speeds are 25 mph between Wallace and Haugen with a 15 or 20 mph limit when ascending or descending to/from Lookout Pass. The maximum ruling gradient is four percent in addition to frequent horizontal curves.

The Burlington Northern has not estimated any deferred maintenance or rehabilitation cost. According to the railroad, the track presently meets FRA Track Class I safety standards. Rail consists mainly of 90 pound rail with some stretches of 100 and 112 pound rail, the latter being installed in the 1960's and 1971. Ties are considered to be in fair condition, although the Burlington Northern expects that numerous replacements of soft wood ties will be required over the next decade.

This line was not inspected by the MDH. Based on information received from the Burlington Northern, rehabilitation would not be required for the continued operation of this line (some localized tie replacement might be required, however).

4. FUTURE FREIGHT SERVICE NEEDS

Continued rail service to existing mines in the Wallace area is absolutely essential if the mining and marketing of lead, zinc, copper and silver ores are to continue. Retention of the line between Haugan and Mullan is not required provided that alternate arrangements can be made with the Union Pacific to continue rail service on the portion of the line between Mullan and Wallace. Failure to provide rail service would lead to the closure of mines resulting in major layoffs in an already economically depressed portion of Idaho. The products produced can only move to their markets by rail. Assuming the Union Pacific does acquire this line, the impacts of abandonment would largely be eliminated. Initial economic, environmental, and transportation impacts are shown on Worksheet II.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Abandonment of this section would have no effect on Montana transportation needs.

THE IDAHO STATE RAIL PLAN

SERVICE EVALUATION WORKSHEET II

INITIAL IMPACTS

BRANCHLINE 1 HAUGAN MT - WALLACE ID

********** ECONOMIC IMPACTS **********	ENTIRE LINE	SEGMENT 1	SEGMENT 2	SEGMENT 3
WAGE & SALARY LOSS ($ PER YEAR)	0	0	0	0
TRANSPORT COST INCREASE ABSORBED LOCALLY ($ PER YEAR)	0	0	0	0
TOTAL TRANSPORT COST INCREASE ($ PER YEAR)	0	0	0	0
UNEMPLOYMENT PAYMENTS ($ PER YEAR)	0	0	0	0
LOSS IN LOCAL PURCHASES BY BUSINESSES ($ PER YEAR)	0	0	0	0
TAX LOSS ($ PER YEAR)	0	0	0	0
OTHER COSTS ($ PER YEAR)	0	0	0	0
********** ENVIRONMENTAL & ENERGY IMPACTS **********				
ADDITIONAL TRUCK TRIPS PER DAY	0	0	0	0
ADDITIONAL TRUCK MILES PER DAY	0	0	0	0
ADDITIONAL GALLONS OF FUEL CONSUMED TRUCK	0	0	0	0
RAIL	0	0	0	0
ADDITIONAL POLLUTANTS(LBS) -				
NITROGEN OXIDES	0	0	0	0
CARBON MONOXIDE	0	0	0	0
HYDROCARBONS	0	0	0	0
CRITICAL NOISE IMPACT (Y/N)	N			
********** OTHER IMPACTS **********				
PRIMARY JOBS LOST	0	0	0	0
SECONDARY JOBS LOST	0	0	0	0
LOCAL OUTMIGRATION	0	0	0	0
CRITICAL BRIDGE IMPACT (Y/N)	N			
CRITICAL HIGHWAY IMPACT (Y/N)	N			

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service by the Union Pacific is a highly viable solution, provided that the Burlington Northern does sell or transfer its existing trackage between Wallace and Mullan to the Union Pacific. Based on present demands, reliable service by one carrier is far more important than retention of competitive service by two railroads. The Oregon-Washington Railroad and Navigation Company and the Union Pacific Railroad have agreed and have made application to the ICC to acquire and operate the Burlington Northern trackage between Wallace and Mullan upon ICC approval of abandonment and discontinuance of service by the Burlington Northern.

Substantial railroad efficiencies and savings will be obtained by conveying the Wallace-Mullan segment to the Union Pacific without reduction in the rail services currently provided. The Union Pacific will acquire additional revenues to offset the additional transportation and maintenance costs, while the Burlington Northern will save on maintenance costs plus being able to recoup assets tied up in lightly used trackage.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is presently served once a week on a scheduled basis by two locomotives and a four-man local crew operating out of Missoula. Further service reductions to achieve substantial operating economies can only be achieved by discontinuing competitive rail service. Thus, a consolidation of operations is a feasible solution.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

Acquisition and operation of the Wallace-Mullan segment by the Union Pacific should strengthen the viability of the railroad's Wallace Branch.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF LINE SUBSEQUENT TO THE FEDERAL ASSISTANCE PROGRAM

No calculations have been made by the MDH to determine whether the attributable revenues derived from operation of the Wallace-Mullan segment by the Union Pacific substantially exceed avoidable costs.

Acquisition of the Wallace-Mullan portion of the line by the Union Pacific would eliminate any anticipated need for federal financial assistance.

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

Given the proposed acquisition by the Union Pacific, different scenarios for continued operations have not been evaluated.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

No economic need exists for retaining the rail line between Haugan, MT and Mullan, ID. Consequently, the Department concurs in the abandonment of this line provided that the segment of the line between Wallaceand Mullan is conveyed to the Union Pacific concurrent with abandonment and that rail service is continued to present users without interruption. The consolidation of the proceedings in Finance Docket No. 28759 and Docket No. AB-6 (Sub-No. 51F) by the ICC on October 4, 1978, are a necessary step in assuring the orderly transfer and continuation of rail service necessary to support local economic activity.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on the Haugen, MT to Mullen, ID portion of this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line does not have potential economic viability.
- The economic impacts of abandonment are small.
- Little community impact would result from abandonment.
- Abandonment causes only very small changes in energy use and environmental factors.
- The line is not essential to the state or regional rail network.